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THE

AMERICAN JOURNAL

OF THE MEDICAL SCIENCES

FOR JANUARY 1851.

ART. I.—*On the Structure of the Mucous Membrane of the Human Stomach.* By JOHN NEILL, M. D., Demonstrator of Anatomy in the University of Pennsylvania. (Read before the College of Physicians of Philadelphia.) [With a coloured plate.]

IT is with some hesitation that we present before this College a paper containing even an intimation that anything new connected with so well studied a structure as that of the human stomach is yet to be observed or described.

Neither are we yet prepared to make the assertion that more recent and protracted examinations have brought to light any specific elementary formation not noticed before, in some disconnected way, and allied with much that is irrelevant and imaginary.

By the aid of microscopic and minute injections, we have been led to the conviction that, as a whole, the internal surface of the stomach has not been fully represented in any description or diagram. Notwithstanding all that older anatomists have written, shall we not be sustained in the statement that their views concerning this elaborate and complicated structure are confused and contradictory? And although modern authorities are more uniform, may not their uniformity be the result of the adoption of a common error?

We should state that it is not the epithelial, but the true surface of the mucous membrane of the stomach to which we wish to call attention, and the facts we shall present can be observed by any one in the preparations upon the table.

The surface of the mucous membrane presents different appearances in different portions of the stomach; this fact not having been sufficiently appreciated by observers, we consider as one of the sources of error in the ordinary descriptions of this organ. By far the larger portion exhibits various modifications of the honeycomb structure, the cells are large and polygonal in some parts,

in others, they are smaller, deeper, and rounder; the ridges between these cells are formed of one or more convoluted capillaries, and this arrangement of capillaries is particularly evident in the rugæ. (See Fig. I.) The walls of these cells or pockets are formed of a network of capillaries, which subdivides each cell into smaller ones; these cells are what are ordinarily called the orifices of gastric glands, and the subdivision in the bottom of each cell corresponds with the described orifices of tubuli. In the antrum pylori, the structure is modified, the ridges between the cells become larger, more elevated, (See Fig. II.), and as we approach the pyloric orifice, *conical villi* make their appearance; these villi are more numerous and larger towards the pyloric valve, so that fewer of the angular or polygonal cells are visible in their interstices; they are not so large as the villi of the small intestine, but in other respects their external appearances are precisely similar. (See Fig. III.) When well injected, they seem to be composed of capillaries, closely united by a basement membrane, and forming a pyramidal projection.

There may be said to be three different appearances presented by the microscopic examination of the injected capillaries of the mucous membrane of the stomach when deprived of its epithelium. First. The convexity of a large ruga will have a comparatively smooth and even appearance formed by convoluted and intertwining capillaries. Second. Any other portion excepting the antrum will exhibit cells or alveoli of different sizes and shapes, separated by ridges of various thicknesses, and these ridges are composed of capillaries arranged in the same manner as in the rugæ. Third. In the antrum pylori there are *conical villi*, and cells exist in the interstices and at their bases.

That the main point which we wish to prove may be understood in a few words, we would simply state that we consider the capillaries arranged in the form of "ridges, cells, and *villi*." The question may now arise whether this description in any manner deviates from those ordinarily given in the standard works of the day? We consider that it does, particularly with reference to the villi, the existence of which, in the stomach, we wish fully to establish by description and demonstration. It might be asked whether the term *villous* has not constantly been used with reference to the mucous membrane of the stomach? Unquestionably it has, though in a vague and loose way, as indicating a smooth, velvety surface; but not as implying a vascular, papillary projection to which the term *villus* is applied in the intestine.

To corroborate the statement, that it is generally believed that villi do not exist in the stomach, we have only to refer to recent anatomical and physiological writers on the subject. Kirkes and Paget* teach us not only that there are

* "Presents a peculiar honeycomb appearance produced by shallow polygonal depressions or cells. They are separated by highly elevated ridges, which sometimes, especially in *morbid states* of the stomach, bear minute narrow vascular processes, *that look like villi*, and have given rise to the *erroneous* supposition that the stomach has absorbing villi like those of the intestine. In the bottom of the cells are minute openings, &c., which are the orifices of perpendicular glands."—p. 165.

no villi in a healthy stomach, but that the cellular and honeycomb appearance characterizes the whole of its mucous membrane, and that the appearance is *uniform*. Neither Wilson nor Todd and Bowman speak of villi in the stomach. Carpenter* refers to "pointed processes that have been *mistaken by some anatomists* for villi."

Hassall has neither drawing nor description of gastric villi in his Microscopic Anatomy.

Horner† says "that none exist in the stomach or colon."

Quain and Sharpey‡ state "that these pointed processes may be compared to rudimentary villi, the perfect form of which only exists in the small intestine."

Harrison,§ of the Dublin Dissector, denies the existence of true villi.

Hodgkin‖ seems to be ignorant of this structure in the stomach.

Now these authorities are sufficiently numerous and authoritative to convince us that although the term *villous* has been used with reference to the stomach, yet the authors just quoted do not believe that *villi* exist in the stomach.

On the contrary, a number of other writers say that villi *do exist* in the

* "These pits are more or less circular in form, and are separated from one another by partition—like elevations of the membrane which vary in depth; and sometimes even by pointed processes *that have been mistaken by some anatomists for villi.*"—p. 659.

† "The mucous coat of the alimentary canal in a healthy state, and successfully injected, appears to consist almost entirely of a cribriform intertexture of veins." "In the whole length of the intestine there is, however, every variety of shape of villi, from oblong, curved and serpentine ridges, to the laterally flattened cone standing on its base, &c. Conformably to this definition of villi, none exist either in the stomach or colon."—Vol. ii. p. 54.

‡ "It is seen to be marked throughout, but more plainly towards the pyloric extremity, with little depressions or cells, named alveoli, which have a polygonal form." "The margins of these alveoli are elevated into pointed processes, which may be compared to *rudimentary villi;* the perfect form of these appendages only existing in the small intestine, and making their appearance in the duodenum."—Part III. p. 1025.

§ "Numerous follicular papillæ, but not true villi, project, and leave between them small depressions or pits studded with minute holes; these pits are more or less circular, and are bounded and separated by the follicular elevations; they are more distinct towards the pyloric portion of the stomach; four or five foramina are seen in each: these are the orifices of the small glands and ducts that elaborate the gastric fluid, the mucous being probably furnished by the follicles."—Vol. i. p. 244.

‖ "In fact, the surface of the mucous membrane of the stomach is generally described as villous: and even Billard appears to agree with this description of it. I have at least a doubt respecting the accuracy of this statement. To me the surface of the stomach, when viewed under the circumstances which I have mentioned, appears to the naked eye by no means perfectly smooth, but of an indeterminate character, very difficult to describe." "Whilst in the *serous* membranes, the assistance of a powerful microscope enables us to distinguish delicate fibres intimately interlaced, when the *mucous* membrane of the stomach is thus examined, *I can only observe an amorphous semi-transparent* mass in which no structural texture can be distinguished."—Lect. xix. p. 270.

stomach, and give descriptions of them, though none have made drawings of them but Berres,* whose magnificent work has fallen into my hands since the artist has given the accompanying representations. With the exception of Berres, we believe no one has had the knowledge of this structure, although Bèclard† says "the villosities are nowhere more numerous than in the pyloric half of the stomach and small intestine;" and again, in a succeeding paragraph, says, "they are shorter and *less numerous in the stomach* and large intestine," and in another denies the vascularity of them. If Bèclard's injections could not exhibit the vascularity of these villi, it is hardly probable that he could have any accurate idea of the structure, for it is only by successfully executed injections that the true form of the villi can be determined. An opinion founded on no better data can hardly be more than an hypothesis, or an inference from the nature of the surface in other portions of the alimentary canal.

Such also may be considered the value of Bichat's‡ statement upon this point. He *reasons* that they exist there, because they do in other parts; his

* Anat. Microsc. Corp. Humani. Auct. Dr. Josepho Berres, Prof., &c. Vienna, 1837.

† "The villosities whose existence is very general, but which are nowhere more numerous, larger, or more apparent than in the pyloric half of the stomach, and in the small intestines, and especially in the commencement of that intestine, are eminences still finer than the papillæ."

"These villosities may with propriety be called the *radicals* of animals, are small foliaceous prolongations of the internal membrane," &c. "Were first described by Fallopius and Azelli, and have been figured by Helvetius, Lieberkuhn, Hedwig, Rudolphi, Meckel, Buerger, and others, especially in the small intestine, being shorter and less numerous in the stomach and large intestines."

"Those of the pyloric half of the stomach and duodenum are broader than long, and constitute a small lamina." "There is not perceived the vascular texture which has been described as belonging to them."—*Elem. Gen. Anat.*, Béclard, translated by Knox, 1830.

‡ The papilla of this system cannot be called in question at its origin, where it dips into the cavities, in the commencement even of these cavities, as upon the tongue, the palate, the internal part of the alæ of the nose, upon the glans penis, in the fossa navicularis, within the lips, &c. Inspection is sufficient to demonstrate them there. But it is asked if the papilla exist also in the deep-seated parts of this system. Analogy indicates it, since the sensibility is as great there as at their origin, though with varieties that we shall point out; but inspection proves it in a manner not less certain. I think the villi with which we everywhere see them covered are nothing but these papillæ. This manner of regarding them by explaining their existence generally observed upon all the mucous surfaces, appears to me to be much more conformable to the plan of nature, than to suppose them in each place with different and often opposite functions. Besides, it is difficult to decide the question by ocular observation. The delicacy of these elongations conceals their structure, even from our microscopical instruments—agents from which anatomy and physiology do not appear to me to have derived much assistance, because when we see obscurely, each sees in his own way and according to his own wishes. It is then the observation of vital properties that should especially guide us; now it is evident to judge by them, that the villi have the nature I have attributed to them."—*Bichat, Hayward's Translation*, 1822.

generalizations lead him to assert the existence of structures we fear he had never seen. He says "analogy indicates it," but "it is difficult to decide the question by ocular demonstration."

Billard, in his work on "Mucous Membranes," speaks of the stomach as possessing villi, and says, "they exist *generally* over its surface" (with which we cannot agree), although he describes them as "more numerous towards the pylorus," and that "in the healthy stomach the naked eye perceives them but indistinctly."

Huschke* seems to have appreciated the labors of Berres on this point, and admits that the pyloric portion contains villi: and Krause also speaks of "villous folds."

We thus see that even modern writers do not agree; and if this diversity of opinion exists at the present time amid the advantages which we possess, we should not be surprised at the conflicting testimony of those of older times.

Some expressions in Haller† might lead us to suppose that he had very clear evidence of the existence of villi, which he describes as "projecting into the cavity of the stomach;" he speaks also of "the inhaling veins opening in the pendulous villi."

Ruysch‡ gives a drawing from one of his minute injections, which exhibits

* Mais les cloisons interposées entre les glandes tubuleuses méritent de fixer l'attention. Sur les dentelures qui servent de limite si tranchée entre l'épithélium de l'œsophage et le commencement de l'estomac, il-y-a, suivant Berres, des papilles longues de 1-17 à 1-18 de ligne, sur 1-64 d'épaisseur, dans chacune desquelles pénètre une anse vasculaire de 1-139 de ligne. Ces papilles servent peut être à procurer une plus grande sensibilité aux points où elles existent. Dans le reste de l'estomac, les parois intermédiaires entre les orifices des glandes ne s'élèvent pas d'une manière notable, et l'estomac n'a point, par conséquent, des villosités proprement dites, quoique sa membrane muqueuse fasse le passage, par son aspect tomenteux, à celles qu'on nomme villeuses. Mais les choses changent lorsqu'on approche du pylore. Ici, non seulement le membrane muqueuse devient plus épaisse, mais encore sa surface acquiert rapidement une tout autre apparence, qui mène à la formation des villosités de duodénum. Voici comment j'ai trouvé la métamorphose. Les orifices des glandes tubuleuses s'élargissent rapidement, et leurs intervalles commencent à se soulerer, deviennent par là mobiles et flottants, et acquièrent des bords en crête de coq, c'est-à-dire pourvus de pétites points à trois dents. Pendant que ces bords s'élèvent ainsi en manière de plis ou de lames que Krause nomme *plicæ villosæ*, et auxquels il assigne 1-28 à 1-19 de ligne de hauteur, sur 1-56 à 1-28 de large, le fond des glandules tubuleuses se rapproche aussi davantage de la surface, et leur cavité tout entière est alors devenue l'intervalle entre les villosités lamelleuses. D'abord leurs parois intermédiaires sont encore tubuleuses; mais quand l'ouverture des glandes s'agrandit, elles ne tardent pas à se recourber irrégulièrement sous des formes diverses, en zig-zag, en rond, en spirale, continuent d'abord de tenir les unes aux autres par des saillies plus ou moins prononcées, et finissent par perdre entièrement ces moyens d'union; de sorte qu'alors les glandules tubuleuses se continuent les unes avec les autres à la surface, et ressemblent plus à un labyrinthe qu'à un rayon de miel ou à un réseau.—*Encyclop. Anat. Traité de Splanchnologie*, par E. Huschke. Paris, 1845.

† Haller's Physiology, vol. ii. p. 161. Lond. 1754.

‡ "Quando enim ventriculi arterias cera replevi rubrâ: posteaque in liquore idoneo ita

the surface of the stomach as consisting of regularly-formed pockets or cells. He speaks also of villi, but nevertheless confesses that his view of this arrangement was only particularly satisfactory in sheep. If he had satisfactorily injected the villi of the stomach, is it not probable that he would have given us a drawing of this structure in his work?

Fordyce says "that as far as I can judge, it seems to be nothing but cellular membrane. When the surface was moderately moist, there seemed to be a number of thin fine membranes crossing each other, so as to form a number of angular cells."

Hewson states that the whole surface of the intestinal tube is covered with villosities, but admits that in the large intestine these bodies are so short, that the surface appears smooth to the naked eye, while no true villi are detected by the microscope; only the partitions between the cells resemble villi in their structure. In the stomach a nearly identical appearance is found. "At the upper part of this organ, the villous coat appears in a microscope like a honeycomb, or like the second stomach of ruminating animals in miniature; that is, full of small cells, which have thin membranous partitions. Towards the pylorus these partitions are lengthened, so as to approach to the shape of the villi in the jejunum."*

That these opinions should have but little weight with writers and teachers at the present day, and that they should be quoted merely as elucidating the history or the literature of the subject, ought not to surprise us, when we learn that their descriptions were generally based upon observations made with the naked eye, or with instruments in which the observers had but little confidence; for both Fordyce and Bichat, although they used microscopes, expressed themselves as deriving no advantage from them. Neither are we disappointed at the want of accuracy in their descriptions, when we reflect that their comparisons were derived in a great measure from the inspection of inferior animals, and that the meaning attached to such terms as cells, alveoli, crypts, pockets, lacuna, glands, villi, papillæ, &c., is conventional, and varies

prius præparatas partes hasce macero, experior tum superficiem interiorem ventriculi et intestini jejuni tunicâ quasa quadam papillosa vestitam esse. Fateri tamen debeo, haud ita evidenter quidem in stomacho humano has papillas apparere, ut quidem in ovillo: quemadmodum hâc in figurâ expressi. Inde itaque et tanto facilius inducimur credere, et in homine ita obtinere, quum obscurius quidem similitudo accedens in homine observetur."—*Ruysch, Dec. Tert.*, p. 34 and 35, 1737.

"Voco autem hanc intestinorum tunicam villo-papillosam, quia animadverti villosam istam superficiem penitus simul esse papillosam, quemadmodum se habent interiora nostrarum Genarum in suo integumento, ut et labia oris, œsophagus, ventriculus, omniaque intestina, quum sit in his omnibus ejusdem apparatus continuata productio. Verum quidem est, in unoquoque non æque clarum id apparere; quum in Labiis genis internis, et in intestinis maltorum hominum tunica hæc papillas hasce nimis manifestas non possideat, attamen in aliis satis conspicua datur."—*Ruysch, Dec. Secunda*, p. 25 and 26.

* Dr. Sprott Boyd's article on the Structure of the Mucous Membrane of the Stomach. *Edin. Med. and Surg. Journal*, 1836.

with the different periods at which the authors above referred to have made public the results of their observations.

We ought next to inquire what is taught by the principal physiological writers of the day upon this subject, and examine the evidence upon which they base their theories, and see how far the structure they demonstrate corresponds with what we may conceive to exist.

The investigations most frequently referred to are those of Sir E. Home and Dr. Sprott Boyd, although the diagrams of Ruysch, Horner, Todd and Bowman, and Berres are far more in accordance with nature. We refer now merely to the mucous membrane, and not to its epithelial investment, which has received so much attention from Wassman, Henle, Wagner, Hassall, and others.

Sir E. Home says: "The structure upon the upper arch of the stomach which when magnified by a common lens had the appearance of glands, is shown by Mr. Bauer to be made up of cells in the form of a honeycomb; this honeycomb structure consists of cells of the greatest depth in this particular situation, but over the whole surface of the cardiac portion of the stomach the appearance is so faint as to require a great magnifying power to render it visible. In the pyloric portion the cells in general have the same appearance, but there are small clusters, the sides of which rise above the surface, giving the appearance of foliated membranes."

And Dr. Sprott Boyd agrees with him, for he says "the appearance of those cells, throughout the cardiac portion of the stomach, corresponds to the representation given of them by Sir E. Home. When the mucous membrane is extended, they appear tolerably regular both in form and size, varying from the one-two hundredth to one-three hundred and fiftieth of an inch in diameter, being smaller in the young man than in the adult subject. Towards the pylorus, the mucous membrane, which is thin throughout the great cul-de-sac of the stomach, becomes considerably thicker, the dimensions of the cells are increased, and an appearance somewhat resembling that described by Sir E. Home is perceptible. He mentions the patches distinguished by the foliated membranes as existing particularly towards the pylorus. They may be found, however, in the cardiac portion of the stomach likewise; perhaps not actually at the great extremity; but certainly opposite the termination of the œsophagus. In the engraving given by Home of these patches, the wall of each cell is represented as rising above the general surface of the stomach, and being cleft into a number, ten or a dozen, of rounded segments, which form a complete fringe about the mouth of the cell. These projections of the mucous membrane are, so far as I have been able to observe, much less numerous. There is no regular fringe, but here and there a prolongation of membrane, resembling an ordinary villus of the intestine, rises from a partition between two cells. These bodies from their small size are not easily distinguished; they give to the surface a more flocculent and velvety appearance than is presented by other parts of the stomach. The cells near the pylorus are in some cases about one one-hun-

dredth of an inch in diameter, and on examining them on a dark ground, and with the aid of a reflector and a magnifier of a quarter of an inch focus, their interior is pretty distinctly seen presenting an appearance similar to what I have presently to describe as existing in the stomach of the pig, where it is more clearly visible and more easily examined. The floor of each cell appears perforated by numerous circular openings, as if a number of tubes opened on it; and on making a vertical section of the mucous membrane, it is seen to be composed of striæ or fibres running perpendicularly from the free surface of the membrane to the cellular coat beneath."

The diagram of Dr. Boyd is the one which is usually copied into the text books of the day. Had it been made from an injected preparation, we think the nature of "cells and the circular openings perforating their floor" would have been more distinctly demonstrated. The circular openings which he considers to be the orifices of *tubule*, which he describes partly from observation, and partly from analogy in the pig's stomach, we consider to be simply the subdivisions of the cells into smaller and deeper ones by the arrangement of the blood-vessels. We have no disposition to make any innovations upon the terms "tubuli," "gastric tubes," "pyloric tubes," &c., but merely wish to show that their parietes are formed of vessels, and that they are elongated cells or alveoli.

It will be a question of great interest to determine the uses of the *Gastric Villi*. Their form and structure, and their resemblance to the intestinal villi would naturally lead us to associate them with the function of absorption, although some, perhaps, who still consider the intestinal villi to be tactile, would wish to ascribe the same character to those of the stomach. We would not imply by the application of this term *villi* that their uses are precisely similar to the villi of the intestine, that is, that they participate in the chyliferous absorption, or that their lymphatics should be called lacteals; on the contrary, we would believe that the fluid which they absorb is very different from that which has to be subjected to the influence of the bile and pancreatic juice previously to its removal from the intestine; for we have neither mesentery attached to the stomach, nor mesenteric glands for lacteals to pass through, did we suppose them originating in the villi of the pylorus. But is there no other absorption from the stomach than that of watery fluids by endosmotic action directly through the parietes of the blood-vessels? May not these villi be the special apparatus for the absorption of the solution of the albuminose compounds? Is there no nutrition except through the villi of the intestine?

EXPLANATION OF THE PLATE.

Fig. 1 exhibits the gastric cells and capillary ridges.

Fig. 2 exhibits the cells becoming deeper and the ridges becoming more elevated and pointed.

Fig. 3 exhibits the *Gastric villi*, together with gastric cells.

Fig. I.

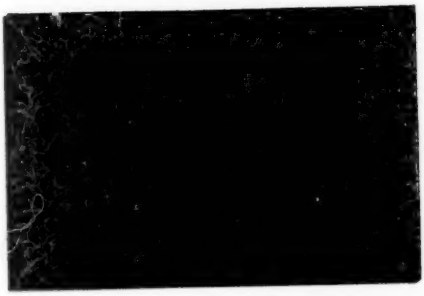


Fig. II.

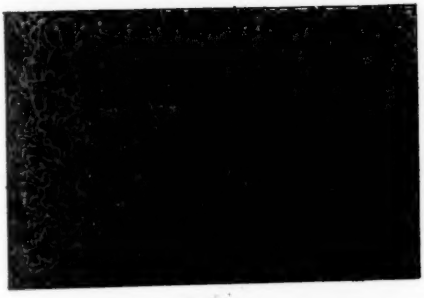
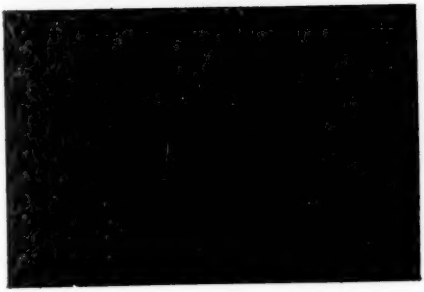


Fig. III.



Lith. of P.S. Duval. Philad.

ART. II.—*Notes of cases of Phthisis Pulmonalis treated in the Pennsylvania Hospital; with remarks on Cod-Liver Oil and its uses in Tubercular Disease.* By JAMES J. LEVICK, M. D., Resident Physician, Pennsylvania Hospital.

DURING the winter, spring, and the early part of the summer of this year, the medical wards of the Pennsylvania Hospital, under the care successively of Drs. Wood, Pepper and Gerhard, attending physicians, have presented a large number of interesting cases of disease. An opportunity has thus been afforded the writer, as resident physician, of noting the progress and results of these cases. From these notes, the following reports have been taken, and are now offered for publication in the hope that they may do their part towards determining the remedial value of cod-liver oil.

Although this motive has led to their publication, it was but a subordinate consideration at the time they were recorded; but to modify the history of the patient, the notice of the symptoms, and the results of the inspections, so as to have this always the prominent object, would require more time than the writer at present has at his disposal; and the reports have therefore been given almost exactly as they were made at the time, after the close of each day's duties in the wards. Where the previous history of the case has been given, it has been in very nearly the words of the patient himself, the person and tense having alone, for the most part, been changed.

CASE I.—A German, surgical instrument maker, æt. 47, dark hair, of medium height, was admitted into the hospital November 7, 1849, for chronic rheumatism. The patient was evidently of a scrofulous diathesis; had on each wrist a bursal tumour filled with cheesy substance. Had cough, with puriform expectoration.

Upon examining his chest, a small cavity was detected at the summit of the left lung. He was at once placed on the use of cod-liver oil, tablespoonful thrice daily; and iodide of potassium gr. xv daily—to have No. 4* diet, and milk and an egg in the morning. He remained in the house for sixteen weeks, and was then discharged, having gained several pounds in weight, and having a very decided diminution of his cough—the physical signs undergoing little or no change.

CASE II.—A seaman, æt. 20, with light hair, a little below the medium height, was admitted September 22, 1849, much emaciated, with cough, copious

* The following is the diet table of the hospital numerically arranged:—
No. 1. Barley water, gruel, arrowroot, sago, tapioca, rice water.
No. 2. Gruel, tea, bread, rice, molasses, mush, vegetables.
No. 3. Bread, tea, rice, molasses, mush, vegetables, soup.
No. 4. Bread, tea, chocolate, vegetables, soup, meat.

purulent expectoration, and with the physical signs of a cavity at the summit of each lung. With this patient there was great intolerance of cod-liver oil, so that after attempting its use for several days it was omitted. He resumed the oil November 16, and continued to take it until his death. After five weeks' use of the remedy there appeared to be an arrest in the progress of the disease. There was, however, no permanent improvement, and the man died four months after his admission, and after an illness of two years.

An inspection showed the existence of a cavity larger than a walnut at the summit of each lung; and numerous larger and smaller tubercles in the stage of softening scattered through the lungs.

Case III.—A seaman, æt. 21, admitted October 13, 1849. Had had cough for eight weeks—before this time had had pleurisy of the left side coming on after exposure to cold and wet. Had suffered for a long time from pain in the bowels and from diarrhœa. He was at once placed on the use of cod-liver oil fʒss ter die, and liq. morph. sulphat. fʒi ter die.

I found him in the early part of December considerably emaciated, harassed by cough, and expectorating nearly ten ounces of pus daily; with cavernous respiration, pectoriloquy and gurgling below the left clavicle, and gurgling below the right clavicle. In addition to the pulmonary affection, there was obstinate abdominal pain and diarrhœa.

Notwithstanding this condition of his bowels, the patient increased in weight, his appetite improved, and he was able to walk about the house, feeling better than at the time of his admission into the hospital. Thinking it possible that the diarrhœa might be aggravated by the use of the oil, Dr. Wood directed its omission for a short time. For a day or two following, the diarrhœa diminished; it soon returned with its former frequency; the use of the oil was resumed, but the patient had acquired a dislike to it, and it was taken with difficulty and irregularly. The cough, expectoration and diarrhœa increased, and the man died February 28, 1850.

On inspection, there was found considerable serous effusion in the left pleura; a vomica at the summit of each lung—that of the right side (the larger of the two) about the size of a hen's egg, and traversed by a band enclosing a vessel through which a fine probe was readily passed. The mesenteric glands were found tubercular; numerous small tubercles dotted the peritoneal surface of the intestine, the mucous membrane of which was found extensively ulcerated.

Case IV.—A shoemaker, æt. 24, born in Ireland, rather above the medium height, was admitted September 8, 1849. Had been well until the first of May preceding—was at that time on a frolic and took cold. From this time had had a cough, which had continued steadily to increase. Had rapidly lost flesh, but had had no hæmoptysis.

At the time of his admission the patient was very feeble, much emaciated, unable to leave his bed; with frequent cough, rigors and hectic. Percussion

dull at the summit of left lung, clear elsewhere; cavernous respiration and subcrepitant râle distinctly heard below the left clavicle. On the 10th, was ordered cod-liver oil, tablespoonful thrice daily—with occasional anodynes; No. 3 diet; increased two days later to No. 4.

30*th*. Had a slight hemorrhage. ℞.—Acid sulph. aromat. gtt. x t. d.; a small blister to be applied below the clavicle. These symptoms steadily continued during the first six weeks of his residence here. At the end of this time, an improvement of his appetite and with it an increase of strength began to be noticed; this was followed by a gain of flesh. Two weeks later he was able to leave his bed, though still coughing and expectorating considerably.

A gradual though somewhat variable improvement followed. He remained in the hospital about six months, steadily using the oil in the dose before mentioned. At the expiration of this time, an entire amelioration of his symptoms had taken place. He was discharged March 15, 1850, being at the time the stoutest patient in the medical ward, having scarcely any cough, no expectoration, no hectic, with his appetite and strength as good as they ever were. The physical signs at this time were obscure dulness below the left clavicle, with rude respiration at the summit of the left lung.

Case V.—Of this case I have but very imperfect notes. He was a seaman, aged forty years, who entered the hospital Sept. 10th, 1849, far advanced in consumption, with pectoriloquy, gurgling, and cavernous respiration below each clavicle. He was at once placed on the use of cod-liver oil, tablespoonful thrice daily, and a teaspoonful solution of sulphate of morphia, *pro re nata*. He continued the use of these remedies until he was discharged from the house. After a time there appeared to be a very slight improvement in his condition, but this, if real, continued for but a very limited period. He was removed at his own request, Februaray 20th, 1850, with but little hope of surviving many weeks.

Case VI.—A seaman, aged twenty-seven years, born in Prince Edward's Island, dark hair, with numerous scrofulous abscesses of neck and throat, was admitted December 21st, 1849. Five years before had a cough which lasted for two months, and was the result of exposure on the coast of England after a wreck. With this exception had had good health until March 1st, 1849. At that time had swelling of the glands of the neck and under the jaw. This continued to increase for some months, and then disappeared. Two months later reappeared, and with a cough had continued since. Was treated in the Rio Janeiro Hospital for these abscesses, remaining there for five weeks, during which time he had an attack of erysipelas; was very feeble when he left. Had never had hæmoptysis. Did not expectorate to any amount until five months before his admission, when (to use his own words) something like a boil broke in his chest, and a most abundant discharge of matter followed. Was relieved by this. Has had little or no nausea. Bowels pretty regular.

At the time of his admission was extremely ill. Countenance anxious, very feeble and emaciated, harassed by cough, and expectorating twelve ounces of pus daily. Auscultation loud; cavernous respiration, pectoriloquy and mucous gurgling after coughing, at the summit of the left lung. Cavernous respiration, slight gurgling and imperfect pectoriloquy below right clavicle. On the 28th, he was ordered cod-liver oil (with a bottle of porter daily), in the usual dose; an anodyne at night and *pro re nata*, No. 4 diet and a mutton chop daily.

January 8*th*. R. Infus. prun. Virginian. f℥ij t. d., and to have milk and crackers.—29*th*. Complains of great nausea and inability to take the oil; to be omitted for a few days.

February 3*d*. Resumed the use of the oil.—22*d*. Had a slight attack of diarrhœa, checked by an opiate.

At this time a very marked improvement in the appearance of the patient had taken place. He had lost his anxious expression of countenance, several of the scrofulous abscesses had healed, and there had been a very decided increase of his weight and strength; his appetite was good, and he was seldom in bed.

March 31*st*. The tonsils very much enlarged, almost preventing deglutition. To be touched with solution of nitrate of silver ℥ss to ℥j. *April* 2*d*. Throat much better. 10*th*. Very great quantity of puriform expectoration, amounting to nearly a pint. 28*th*. Had an attack of hæmoptysis. To correct this, R. Acid. sulph. gtt. x t. d.

May 14*th*. On a close examination of his chest to-day, I find the physical signs below the clavicle to be very much as at the time of the man's admission. At the lower part of the right thorax anteriorly there is complete flatness on percussion extending above the sixth rib, with great prominence of this part of the chest. Posteriorly on the same side, a little below the inferior angle of the scapula, there is loud amphoric respiration.

July 4*th*. Has complained of pain at the lower part of his right side, relieved by a blister.

Notwithstanding these evidences of an increase of the disease of the lungs, the improvement in his general health, as shown by increased weight and strength, continued, and the patient, with the infatuation of his disease, believed himself to be fast getting well. 20*th*. Had a bad attack of diarrhœa, checked by anodyne enemata. 29*th*. Diarrhœa returned; considerable discharge of blood from the bowels. R. Opii pulv. gr. ss q. q. h. Has much nausea and vomiting with total inability to retain the oil. Pulse very feeble. R. Vini rubr. f℥vi daily. This bowel complaint continued with increased violence, resisting all treatment, the number of discharges amounting to sixty daily. Under the exhausting effect of these the patient rapidly sank, and died August 27, 1850. The inspection was made twenty-four hours after death, with the following results:—

Exterior.—Emaciation moderate; numerous cicatrices of old abscesses on neck and throat.

Thorax.—Slight adhesions of left pleura; adherent in the whole extent of right side. Third rib carious, and pieces of it torn away in removing the lung. A large cavity found at the summit of each lung. A little below and exterior to the root of the right lung there was a cavity larger than a hen's egg; a smaller one was found a short distance below this. A small cavity was found near the centre of the left lung; numerous larger and smaller tubercles diffused through each lung.

Abdomen.—The liver was enormously enlarged, to nearly three times its natural size. The gall-bladder adherent to the intestine. A larger and smaller spleen. Several large ulcerations found in the great intestine. Tubercular deposits in Peyer's glands. The mesenteric glands much diseased, and containing numerous tubercular deposits. The inner surface of the sigmoid flexure appeared to be a continuous ulcer. No further examination was made.

Case VII.—A wool-sorter, æt. thirty-two, born in Wales, with light hair and fair complexion, was admitted February 9th, 1850. Had been in good health until the preceding September. Had been exposed to the damp and cold while working in a new building, the windows being unglazed. First had cough, followed by chills and sweats; had had no hæmoptysis. At the time of his admission had dulness at the summit of right lung, loud bronchial respiration below the right clavicle and slight subcrepitant râle below the left; much emaciated, great anxiety of countenance, and expectorating about four ounces of muco-purulent matter daily; bowels constipated. 10*th.* Ordered of solution of sulphate of morphia f℥j ter die; cod-liver oil f℥ss thrice daily; to take an occasional cathartic. Diet No. 3, to be gradually increased.

March 13*th.* Had been pretty comfortable during the last three weeks. Thinks he took cold two days ago, since which time he has had severe pain in the lower part of his right lung. For this was dry-cupped. To-day has purulent expectoration (about ten ounces), which, he says, seems to come from the lower part of his lungs. On a close examination of his chest to day, I find, besides the signs noted before, amphoric respiration with metallic tinkling two inches below the left nipple. 17*th.* Pulse frequent and feeble, much dyspnœa. ℞. Vini alb. f℥vi daily.

This debility and dyspnœa continued for several days; added to which were the continuance of copious purulent expectoration and increasing evidences of pneumothorax, the latter being followed by a slight attack of pleurisy.

April 5*th.* Feels better to-day than he has done for a long time. Has (notwithstanding this) very violent action of the heart, and an unusually anxious countenance. Gurgling distinctly heard below the inferior angle of the left scapula. In very much this condition the patient remained until April 29th, using the remedies above mentioned. That an increase of the local disease took place there was no doubt. I could not observe any decided improvement in his general appearance, though the man was very positive such was the case, feeling, he said, much brighter and stronger than he was at the time of his

admission. Contrary to our judgment he determined to return to Wales, and was discharged at his request for that purpose April 29th, 1850.

Case VIII.—A seaman, æt. thirty-eight, born in United States, dark hair, sallow complexion. This patient entered the hospital September 25th, 1850, with pneumonia of the right lung slightly involving the left lung. He was too ill at the time of his admission to give any account of himself; the following was subsequently learned. That during the last year he had always had a cough after the slightest exposure to cold. Had never had hæmoptysis: did not know that any of his family had had consumption, but recollected that his father had a cough for a long time; had been in the habit of drinking freely. Had attended to his work until a week before his admission. At that time had a chill followed by fever, &c. Had had more or less pain in his liver for nearly five years; had an attack of pleurisy many years ago. At the time of his admission was suffering much from partial dyspnœa, pulse frequent and feeble. There was no reason to suspect the existence of tubercles, the patient having all the signs of pneumonia in its second stage. Percussion dull on the right side posteriorly; tubal respiration and crepitant râle. Expectoration rusty and tenacious; no delirium; countenance expressive of great distress.

The application of a few cups to the back of the chest followed on the succeeding day by a blister was the only depletion resorted to, the patient's asthenic condition forbidding any more active treatment. For two days he used small portions of calomel and opium; it was soon found necessary to omit these and to substitute ammoniæ carb. gr. iij; senegæ syr. ʒss q. t. h.; brandy punch tablespoonful every hour. Good diet.

Under this treatment the urgent signs of the disease abated and the patient though very feeble, was deemed convalescent.

March 17*th*. Pulse rather more feeble; has no appetite; coughs very much, and expectorates largely (nearly twelve ounces) of muco-purulent matter. ℞. Tr. cinchon. comp. fʒj, *q. q. h.* To have a bottle of porter, oysters, eggs and chicken. 18*th*. Much more comfortable. 19*th*. Very much troubled by diarrhœa. Ordered an enema of sixty drops of laudanum. 21*st*. Crepitant râle still heard though coarser. While ausculting this morning, thought I could hear indistinct gurgling, about two inches below the inferior angle of the scapula, as if there might be a deep-seated abscess of the lung, corresponding with that point. Cough troublesome; uses solution of sulphate of morphia fʒj at night. Has less bowel complaint. 23*d*. Diarrhœa has returned; omit the syrup of senega, which with the carbonate of ammonia he has continued to take occasionally. 31*st*. Very much jaundiced this morning: no other change.

April 11*th*.—Sat up to-day; vesicular murmur more distinctly heard to-day than at any previous time since his admission. The marked evidences of disease at the lower and posterior part of the lung had led us to neglect a close observation of its upper portion. On a closer examination of this at this

time, there was found comparatively healthy respiration at the summit of the left lung, but, on the right side dulness on percussion extending from the clavicle to the third rib; cavernous respiration and gurgling below the right clavicle. Cough very troublesome, expectorates large quantities of puriform matter. ℞. Ol. jecoris aselli fʒss ter die. ℞. Potass iodid. gr. v ter die.

24*th.* Has had several attacks of diarrhœa. Thinking this might be increased by the oil, it was omitted, and a mixture of chalk and kino ordered, which has diminished though it has not entirely checked the bowel complaint.

May 11*th.* Debility increased; has resumed the use of the oil, omitting it when there has been an increase of diarrhœa. Takes essence of beef in addition to his other remedies. 24*th.* Pulse and voice very feeble. To-day has rude respiration at the summit of the left lung posteriorly, sub-crepitant râle, and loud bronchophony at lower part of right lung posteriorly; with the signs before noted. Has been obliged to omit the oil on account of a threatened attack of diarrhœa. Complains very much of his throat, which he says feels entirely raw—for this is using alum and conserve of roses. 31*st.* Has continued to grow weaker, and died to day at 8 o'clock P. M. The autopsy was made twelve hours after death.

Exterior.—Rigidity incomplete, emaciation extreme, a large cicatrix on the left leg, the remains of an old ulcer.

Neck.—Larynx and trachea tuberculous and ulcerated in their whole length. Posterior portion most affected: this ulceration appeared to extend for a short distance into the right bronchus.

Thorax.—Firm pleuritic adhesion; pleura thickened and studded with numerous small tubercles. Summit of the left lung indurated with tubercles. Tubercles scattered throughout the lung. Along the outer side of this lung were found myriads of minute tubercles resembling the roe of fish in their number and arrangement. Bronchial glands near the root of the lung very much enlarged and containing a cheesy substance. The two lobes adherent; base of the lung adherent to the diaphragm. The right lung at its summit adherent to the chest; immediately below this a vomica as large as a duck's egg. Crossing this cavity were several bands, which seem to be the remains of vessels, the surrounding tissue having been destroyed. About an inch and a half above the base of the lung was found a large abscess, deeply-seated and full of most fetid pus. Numerous tubercles in its vicinity. Pleural surface of the pericardium thickened, adherent to the left lung, requiring dissection to separate it. On its internal surface it was firmly adherent to the heart by a false membrane about a line in thickness. When separated, this presented a beautifully tufted or papillary appearance, closely resembling the tongue of a bullock. The membrane having been closely examined, was found covered with minute tubercles. The size of the heart natural or nearly so; flaccid; a slight coagulum in the right ventricle; the cardiac valves, and the aorta and its valves healthy.

Abdomen.—Liver usual size, of a pinkish hue externally. Its surface cor-

rugated as if by cicatrices; these did not extend into the substance of the gland; this appeared to be healthy. Gall-bladder nearly full of bile. At the apex of the gall-bladder on its external surface a small tubercle existed. Spleen natural size, its exterior surface white from old exudation. Throughout this viscus were found small white round depositions of a bony hardness, about the size of a pin's head. These might perhaps be called bony tubercles, but from their consistence and the integrity of the tissue in their immediate vicinity could scarcely be considered identical in character with those found elsewhere. Stomach, inner surface softened, and of a variable red colour; miliary tubercles found on its greater curvature, and covering both the large and small intestines. Numerous ulcerations apparently of tubercular origin in both large and small intestines. Mesenteric glands enlarged, and containing tuberculous matter. A few, though not all of them, in the softening stage. Left kidney contained one tubercle; right kidney healthy. The ureters and bladder were not closely examined.

Case IX.—A shoemaker, æt. 50, born in Ireland, married, of sober habits, was admitted February 13, 1850. Seven years before had influenza, since which time he had always had cough in the morning; though not amounting to anything serious. Gave up work in the early part of August 1849, on account of a shortness of breath and oppression about the chest, which he attributed to exposure to wet while working in a dye-house. After this, went to the sea-side, where he became much worse. From this time his cough increased, with expectoration, amounting to nearly half a pint of matter mixed with blood, daily; suffered much from exhausting night sweats. Had been much troubled with costiveness, sour stomach and want of appetite.

At the time of his admission, in addition to his dyspeptic symptoms he had a pale and anxious countenance, was harassed by cough and copious night sweats, followed by hectic fever and accompanied with entire inability to sleep. The physical signs were, loud amphoric respiration below the right clavicle with occasional mucous gurgling; bronchial respiration at summit of left lung posteriorly, with faint crackling. Percussion obscurely dull below the left clavicle, very marked *bruit de pot fêlé* a slight distance below the right clavicle; copious purulent expectoration. The evidences thus afforded of an enormous cavity were very decisive. He was ordered to take cod-liver oil in the usual dose, and a cough mixture, each dose containing equal parts of solution of sulphate of morphia and of syrup of senega four times daily. To have milk and No. 4 diet.

These symptoms continued, with but little amelioration, for nearly five weeks; at the end of which time my attention was called by both nurse and patient to his improved appetite, and on my own part to the absence of the anxiety of countenance with which the man entered the hospital. This was gradually followed by a diminution of cough and of expectoration, by marked increase of flesh and strength and by the entire disappearance of hectic.

He remained in the house until May 20, 1850, fourteen weeks; and was

discharged at his own request, to return to his work, believing himself to be perfectly well: the physical signs having undergone no other change than the disappearance of a mucous râle which had been occasionally heard below the right clavicle. For many weeks before his dismissal he had entirely ceased to complain of any dyspeptic symptom with the exception of occasional constipation.

September 25*th.* This man called at the hospital to day, looking even better than when he left us. He has continued to use the oil, and asserts that he is perfectly well. The amphoric respiration and *bruit de pot fêlé* still very marked.

Case X.—A seaman, æt. 22, born in United States, entered the hospital March 16, 1850; of medium height, light hair. Three years before, had a hemorrhage from the lungs, and lost about six ounces of pure fluid blood. Did not suffer any serious inconvenience from this. Had had a slight cough for nearly two years, but not sufficient to seriously annoy him, until about two months before his admission. Within the last two months had suffered much from cough and obstinate diarrhœa. Had been troubled with pain in the region of the kidneys for a long time. The bowel complaint commenced about two months before he came here. At first had three or four passages daily, subsequently the number was very much increased, occurring as often as every second hour. Had lost twenty-eight pounds in weight during the last four months. Both parents alive and well.

17*th.* Patient feeble, and much emaciated. Coarse mucous rales below the right clavicle, and crackling in left subclavicular region. Percussion dull or nearly so for two inches below the left clavicle. Expectoration very slight. Was ordered cod-liver oil, tablespoonful thrice daily, and, to quiet his cough, a mixture of sulphate of morphia and tolu.

Rest and the supine position were for a few days enjoined, and were followed by a diminution of his diarrhœa. On the 22d, there was a return of diarrhœa, and he had eight discharges. To correct this, acet. opii, gtt. v four times daily, were prescribed. 24*th.* Complains very much of pain in the abdomen and of sick stomach. Omit the morphia and tolu, and increase acet. opii to eight drops every third hour. 27*th.* Diarrhœa continues. ℞. Cupri. sulphat. gr. ½, opii pulv. gr. ½ 4 t. d. ℞. Acet. opii gtt. viij ter die. 28*th.* Diarrhœa diminished to once in twenty-four hours, but is nauseated after taking the pills, which are to be temporarily omitted. 30*th.* Very feeble. ℞. Vini rubr. f℥vj daily; two passages to-day. 31*st.* ℞. Bismuth subnit. gr. x ter die.

April 1*st.* Four passages in last twenty-four hours. ℞. Bismuth subnit. gr. xx 4 t. d.

5*th.* Cough very troublesome; is unable to sleep after 2 o'clock A. M. without an additional opiate. Has an occasional anodyne enema. The oil has now been omitted for a few days; finding no diminution in the number

of discharges, its use is to-day resumed. 14*th*. For a few days has had four discharges daily; pulse very feeble, but as from the beginning has very little expectoration. 30*th*. Very feeble, and becoming daily more emaciated; bowels moved three times daily. His debility rapidly increased, and the man died, May 2d, 1850. The autopsy was made twenty-four hours after death, with the following results.

Exterior.—Emaciation extreme.

Thorax.—Old pleuritic adhesions; a small cavity at the summit of each lung; left lung adherent at its summit to the rib, torn by its removal from the thorax. Other parts of the lung found to contain numerous small miliary tubercles.

Abdomen.—Liver healthy, gall-bladder empty. Spleen usual size but soft. Abdominal peritoneum healthy; intestinal peritoneum covered with tubercles of all sizes, and almost innumerable. Mesenteric glands enlarged and tuberculous. Intestines both large and small containing numerous ulcerations apparently of tubercular origin. One tubercle found in the right kidney.

Case XI.—A carver and gilder, æt. 19, medium height, light hair, delicate complexion, born in Ireland, was admitted March 9th, 1850. When a lad, had a swelling of the submaxilliary glands; with this exception had had good health until August 1849. First had cough and sweats during the night; had had but little expectoration. Bowels regular for the most part, though a little inclining to costiveness. Six weeks before his admission, had a very slight hæmoptysis coming on after a violent attack of coughing. Was not aware that any of his relations had had consumption; attributed his illness to sudden exposure to cold after working in a hot room. Did not give up work until four weeks before he came here.

At the time of his admission, emaciation considerable, but by no means extreme, great lividity of fingers; rigors and hectic daily. Sub-crepitant râle under left clavicle, with circumscribed dulness at the summit of left lung. On the 10th was ordered cod-liver oil, tablespoonful three times daily. Pil. ferri. carb. gr. v. ter die. No. 4 diet.

This patient remained in the hospital four weeks without any improvement in his condition, while he continued to suffer from increased rigors and hectic. About six weeks after his admission there appeared to be a slight improvement in his appetite and strength. The following note was taken: *April* 25*th*. Distinct crackling heard under each clavicle after coughing, loud bronchial (almost cavernous) respiration below the right clavicle.

May 14*th*. During the last fortnight, has complained very much of pain in the abdomen and of bowel complaint; this last has been checked by anodyne enemata.

At this time, a very marked change had taken place in the appearance and condition of the patient. He was discharged at his own request, to go in the country, May 18th, 1850; having gained greatly in flesh and strength,

weighing within a pound of his weight previous to the commencement of his illness. His master, who had not seen him since his admission until this time, was very much surprised at his improved appearance. Notwithstanding this unequivocal improvement in the general symptoms, there has been a steady increase of the local disease as shown by the physical signs.

Oct. 1*st.* Have to day heard of this patient. He continued to improve for about two months after his dismissal from the hospital. Used the oil, though irregularly. In the early part of September, had an increase of his symptoms after exposure to the damp and cold. A week or two after left for Ireland, where he arrived safely, and was living at last accounts.

Case XII.—A servant girl, æt. 20, born in Ireland, rather above the medium height, with light brown hair, was admitted July 28th, 1849. This patient did not come under my notice until December 25th, five months after her admission. At that time she gave the following history of herself. Three years before, had hurt her side while lifting a heavy weight. Pain in her side had continued for a long time: was treated for liver complaint, but was not salivated. During this time was able to attend to her work, though feeling very weak and languid. Had had but little cough until April 1849. Attributed this to exposure to the damp and cold after sunset. During the month of May, frequently had chills followed by fever. No other member of her immediate family had had consumption, but two maternal aunts died of this disease. Had had several slight attacks of hæmoptysis.

She was admitted into the hospital merely as an act of charity, being thought too ill to send out of the house, but with little hope of surviving many weeks. Was at first ordered infus. prun. Virginian. Oj daily. Vallet's carbonate of iron, gr. v. ter die, and an anodyne. *Nov.* 6*th.* ℞. Ol. jecoris aselli, f ℥ss ter die. No. 4 diet and milk, &c. The following is a note of her condition in the latter part of December.

Amphoric respiration with metallic tinkling two inches below the left clavicle; very loud bronchial (almost cavernous) respiration below the right clavicle. Has hectic, exhausting night sweats, rigors, chronic laryngitis, with almost complete aphonia. Has recently had frequent attacks of diarrhœa, which are temporarily checked by acet. opii gtt. v. q.q. h. Is unpleasantly affected by sulphate of morphia, but not by black drop. Has frequent attacks of intense pain in the head, relieved by the application of a mixture of chloroform and camphor.

March 6*th*, 1850. Up to this date has taken cod-liver oil, though at first with much difficulty, using at that time the dark-coloured oil. I am assured by the gentlemen under whose care she has been, that although there has been little or no marked improvement in the local disease, yet that the disease has made little or no progress since her admission, and they are decided in the belief that this may be safely attributed to the use of the oil.

April 5*th.* Pulse very feeble; complains of pains in her chest and abdo-

men. Sputa nummular as before, but somewhat bloody. Bowels moved four times in the last twenty-four hours. 24*th*. Great dyspnœa and diarrhœa. To correct this last, astringents and anodyne enemata have been used in vain. 26*th*. Great dyspnœa and universal malaise. Continued to grow feebler and died, May 3d, 1850. Permission for an autopsy was positively refused.

Case XIII.—A servant girl, æt. 15, born in Ireland, short stature, with dark hair and eyes, had been four years in this country, was admitted November 9th, 1849. Had been ill for eighteen months. First had intermittent fever (?) (living in a malarious district), which continued for five weeks and was followed by cough and hæmoptysis. After this had a greenish-yellow expectoration, and lost flesh rapidly. Her mother is said to have consumption; her paternal grandmother died of this disease. [The note of the physical signs at the time of her entrance has been mislaid; they were those which positively indicated the existence of a tubercular cavity at the summit of the right lung.]

Was at once placed on the use of cod-liver oil in the usual dose. At first took the dark-coloured oil, subsequently the pale oil. At first took it alone, but became nauseated; took it without difficulty in the foam of porter. The patient used the oil for about four weeks before any improvement could be perceived. About a week later, had less pain in her side and less dyspnœa, and thought herself a little stronger than before. In two months time found that she was growing fatter. She continued steadily to improve until her dismissal, and was discharged at her own request, January 22d, 1850, being at that time of full face, as strong as she ever had been, having no cough or expectoration, bowels regular, and able to attend to her usual work, the physical signs being cavernous respiration and a peculiar *clicking* sound at the summit of the right lung. In reply to a question on the subject, she states she could not perceive that the oil had any effect on her bowels. She also states that she could take the medicine more readily immediately before meals than at any other time.

August 31*st*. The patient called here to-day. Is in very much the condition that she was when she left here. Has continued to take the oil as directed.

Case XIV.—A servant girl, æt. 18, born in United States, of scrofulous appearance, with light hair and of medium height, was admitted December 11th, 1849. Gives the following account of herself. Had had sore eyes (scrofulous ophthalmia) for a long time; with this exception had been in pretty good health until four months before her admission. At that time had her feet wet, and took cold; this was followed by cough, which has continued to grow worse. Coughed until she vomited, after walking but a short distance. Had loss of appetite; two months after her cough commenced, began to spit freely of yellow matter. Had never had much pain in her chest; had had no hæmoptysis; bowels regular, but had not menstruated for nearly six months. Had rapidly lost flesh; had chills and fever (hectic) every day. Had shortness of breath, espe-

cially in the evening; and during the night exhausting sweats. Had been under no medical treatment. Both parents died of consumption.

At the time of her admission these symptoms just enumerated existed in their full force. The physical signs were, bronchial respiration below each clavicle, most marked on the left side; slight dulness on percussion, and subcrepitant râle at the summit of the left lung.

The patient was directed to take cod-liver oil fʒii ter die (the dark oil), but was unable to retain it. It was omitted, and infus. prun. Virgin. fʒii t. d. was substituted; was also ordered a cough mixture.

For six weeks these symptoms continued; at the end of this time she resumed the oil in the infusion of wild-cherry bark, but was unable to continue its use on account of its obstinately nauseating effect. It was again omitted. The light oil was then given in the foam of porter, but owing to her great aversion to it, the patient did not at first take more than a tablespoonful daily. A fortnight later she was able to take it in the usual dose. Its use was continued for two months before any positive benefit was perceived either by the patient or by her physicians. The first change noticed was the disappearance of hectic fever; gradually the cough diminished, an improvement of the appetite took place, and, she states, after three months time she found herself rapidly gaining flesh.

June 20th, 1850. She has taken her medicine regularly up to this date, and now requests to be discharged; says she feels perfectly well, has little or no cough, no night sweats, no expectoration, no thoracic pain, sleeps well, has good appetite, and is regular, both with her bowels and catamenia. So far as we can judge from the rational symptoms, this patient should be pronounced perfectly well; but the improvement in the physical signs is very far from coinciding with these, for we now have obscure dulness below the left clavicle, with rude respiration and subcrepitant râle. Loud bronchial respiration, amounting almost to cavernous, and very distinct subcrepitant râle at the summit of the left lung—showing in fact rather an increase of the local disease, while there has been so marked an improvement in the general health. She is anxious to return to her home, and is this day discharged.

Remarks.—If we look over these reports, we shall find that in Case I., of whose history it will be seen I have but imperfect notes, the result was what will frequently be found to occur, though to a greater extent than in this man, namely, an increase in weight and strength, while no change takes place in the local disease.

In Case II. the disease had so far advanced as to give us no hope for improvement, yet the progress of the disease appears to have been arrested for a time, though but for a time. This case as well as others confirmed an observation made to the writer by an eminent physician of Baltimore, that although up to a certain period the oil may prove beneficial, yet that there is a time in the advanced stages of the disease in which it ceases to have any appreciable

effect whatever. In such cases we have temporarily omitted and then resumed its use. If this insensibility continue, it has been thought both unnecessary and injurious to urge its further use.

Case III. illustrates a fact of some importance, namely, that the oil in some instances may be given, even though diarrhœa exist; and that patients may fatten and gain strength under its use even with this additional drain on their constitution. This too was an instance of life prolonged apparently by the use of the remedy.

Case IV. is a most striking instance of the happy effects which sometimes result from the use of the oil. Cough, emaciation, debility, &c., all successively disappearing while using this medicine, and this medicine alone. With this man there was, too, a decided improvement of the local disease, as shown by the physical signs. Case V. is but an analogue of the second case reported. Case VI. is an instance of what has been alluded to, the very marked improvement in the general health and strength under circumstances the most unpromising. It is indeed difficult to imagine a more discouraging case than this presented at the time of admission; yet this patient's life was prolonged for nine months, and was lost at last by a disease to a certain extent connected with his tubercular diathesis, yet not properly by the pulmonary affection.

The results of the autopsy may perhaps call attention to a remark made by Dr. Williams on the increased size of the liver during the use of cod-liver oil. The following are the words alluded to: "I have in numerous instances remarked that the bulk of the liver (as determined by percussion) becomes augmented during its use, yet without tenderness, or any other sign of disease."* Now we find that during life this increased bulk was noticed and abundantly shown by the inspection. A single case proves but little, but taken in connection with other observations may perhaps lead to some conclusions on the subject of the mode in which cod-liver oil operates. It is well known to pathologists that an augmentation in the volume of this organ is one of the most frequent attendants of phthisis pulmonalis. Louis found it to occur in forty out of a hundred cases. Opportunities for making inspections of phthisical subjects are frequently afforded at the hospital, but in no instance which has come under the writer's notice has there been an increase so evident during life, or so marked on the post-mortem examination as this case presented.

In Case VII. there was little or no evidence of any good following the exhibition of the oil. The patient was very positive in an opposite belief, but this infatuation is by no means uncommon; certain it is that very rapid progress was made by the local disease notwithstanding that the oil was steadily taken.

In Case VIII., so far as the oil is concerned, little can be learned, as the patient took it but for a short time and irregularly, and at the same time was using active tonics. This was the only case in which the diarrhœa seemed in-

* London Journal of Medicine, January 1849, p. 16.

creased by the use of the oil. It was however thought at the time that any liquid not positively astringent would by its bulk alone, in the man's condition, have produced a similar result. The results of the inspection have been given in full as a striking instance of almost universal tuberculosis, coinciding with the well-known fact that pneumonia *occurring in a tubercular diathesis* may frequently be followed by phthisis.

The result in Case XI. was most gratifying. The age of the patient, the advanced stage of the disease, and the great size of the cavern, gave little hope of amelioration much less of recovery; yet under treatment the results mentioned in the report followed, and the man is at this time engaged at his daily labour. The disappearance of his dyspeptic symptoms while using cod-liver oil cannot, I think, authorize us to consider the oil an anti-dyspeptic any more than the return of the menses in Case XIV. would justify us in calling it an emmenagogue. To the improved general health and strength must each of these results be ascribed. Case X. is an instance in which the oil as well as the other remedies used proved utterly impotent. We would of course suspect that in those cases where the tubercular disease is so universal, the remedies used would be less beneficial than if the disease were limited to one organ. With him there certainly was no good derived from the use of cod-liver oil; nor was there on the other hand any increase of diarrhœa following its exhibition. Case XI. is another instance of the fattening and strengthening properties of the oil, and another instance of non-increase of diarrhœa from its use. Case XII. is imperfect from the absence of a post-mortem examination; in other respects it corresponds with the third case reported. Cases XIII. and XIV. are both instances of very happy effects following the use of the oil. Case XIV., too, shows the propriety of not laying aside the oil from any aversion, however decided, which the patient at first may have to it; it also encourages its protracted use, even though it may have been taken for a long time without any appreciable benefit.

The question now very naturally arises, Have the results of the cases under treatment in the hospital been such as to authorize the statement that cod-liver oil will cure pulmonary consumption? I regret to state they have not. Certainly the cases reported do not warrant an affirmative reply, and they, though but a part of those under care, faithfully indicate the average result. We certainly have had no case of pulmonary consumption, unequivocally marked, in which all the evidences of disease, as shown by the rational symptoms and *by the physical signs*, have disappeared. The nearest approach to this is Case IV. which is the patient referred to in the third edition of Dr. Gerhard's work on *Diseases of the Chest*, p. 238. Even here, although there appears to have been a very marked improvement in the physical signs, the evidences of local disease were not entirely removed, and the patient cannot be said to have been perfectly cured. On the other hand, it will be seen that in all the cases reported the disease was in an advanced stage. In six of the number, the physical signs were those of a cavity in each lung. In each of

six others a cavity existed in one lung, while in the remaining two the disease had advanced to the stage of softening. Under ordinary treatment, little or no happy result could have been expected; yet we find that of this number in five the disease, though terminating fatally, appeared to be for a time arrested; and that there was in these a decided though temporary increase of strength. One patient left the hospital somewhat improved, and five were so much benefited as to be able to return to their former occupations, believing themselves to be well; and so far as the rational symptoms were concerned, really so; while but in two instances do we find an entire insusceptibility to any good influence of the remedy.

And here I cannot avoid the remark, now fortunately almost supererogatory, that a knowledge of physical diagnosis is of the utmost importance in all cases of thoracic disease. Without such knowledge, five cases above alluded to would have been pronounced entirely well. This too may lead us to suspect that, in some (of course, not nearly all) of the cases reported in the journals as complete recoveries, this test has been neglected.

We have used, in the hospital, two kinds of oil, the pale and the brown oil. My own impression is that of these two the genuine pale oil is preferable; not that it is more efficacious, but that it is equally so, while it is much less offensive than the brown oil. Certain it is that there are patients who can take the pale oil without difficulty whose stomachs have steadily rejected the darker kind. In all the cases here reported, the pale oil has been used during a greater part of the treatment. A distinction should be made between the pale oil as obtained in that state from the fresh liver of the fish and much of that sold in our markets as pale oil, which is really the brown oil decolourized. As will be seen hereafter, this latter is thought to have been injured by the process required to effect this change. If the vender of the pale oil can be depended upon, this should certainly be preferred; if not, it would be safest to purchase the dark oil, which, from its cheapness, offers no inducement for adulteration, and which is always the oil of genuine though of old and too often of putrid livers.

We have generally allowed our patients to choose their own vehicle and time for taking the oil, attention being given that the entire amount prescribed was each day taken. It has been generally taken in the foam of porter, though a few patients preferred to take it in milk; by the majority, it was taken immediately before meals, but by a few it was most easily taken an hour after meals.

Being desirous of obtaining some information on the mode of preparation of the oil used in this country, and to ascertain if it corresponded with that employed in Europe, the writer addressed a number of questions to a gentleman residing near Boston, who, for thirty years, has been largely engaged in the preparation and sale of cod-liver (or, as during a greater part of that time it has been known, of tanners') oil. The following passages are taken

from the reply. These statements, which can be relied on, will be found to be very similar to those given by De Jongh in his treatise on cod-liver oil.

"In preparing cod-liver oil for medicinal purposes, the livers should be selected from healthy fish, and used immediately after the fish are caught. We use the water-bath, by having double kettles, holding from fifty to sixty gallons each. The livers should be washed clean, and put in the kettles whole, and heat applied. The oil thus obtained should be taken from the kettles in an hour, or an hour and a half, and strained through a fine cloth. Another filtering is needed after it has cooled off."

"The oil thus obtained is the pale oil; the heat used should not be above 180° (Fahrenheit)."

"The livers vary very much in quality at different seasons of the year. At this time (November 12th, 1850), they are very fat; one hundred pounds of livers will yield forty pounds of oil. They will yield about this proportion until January; after that, they will begin to grow poor, and will continue so until April or May, when they will yield scarcely any oil, though the fish seem at this time to be as thrifty as at any other season."

"The livers of the cod-fish require considerable sorting, as there is quite a number of diseased ones among them."

"In obtaining the dark-coloured oil, the livers are thrown into casks, holding from three to six barrels each, standing in the sun. By this exposure to sun and air, the red color is obtained. This oil is from one to three months in making."

"The dark-coloured oil *can be made light* by a process of bleaching with an alkali, which we consider destroys all the good properties of the oil."

"When the pale oil becomes of a certain age, say from six to twelve months old, the properties of the oil become so much impaired that sulphuric acid will not produce the pink or red colour in any way.

"In regard to the oils sold as cod-liver oil, I should judge, from the quantity of oil sold and for sale, that not more than one-quarter part is genuine cod-liver oil. Our best livers are obtained near Lynn, Mass."

"We consider the best method of testing the oil to be, to take a small vial half full of the oil, add say one-eighth part of nitric acid, shake it well together; if it turns a handsome orange colour, and remains so for thirty minutes or more, it is a test for *pure* oil; but, if it turns quite dark, it may be suspected that other oils are mixed with it."

The writer adds that he has known it to be used medicinally, by those engaged in its preparation, for nearly thirty years.

If I mistake not, it is highly important that the real value of this remedy should be soon determined. Exaggerated impressions of its worth have no doubt been made, to be followed by their necessary disappointments. All the results promised by some writers from it have certainly not followed its use in the hospital, nor in a large number of cases in private practice, which, through the kindness of his medical friends, the writer has had an opportunity of closely watching. On the other hand, we can positively say that most of our patients, while using the oil, have increased in flesh, in weight, and in strength; that with most of them there has been a diminution of cough and of expectoration; that with some of them hectic and rigors have entirely disappeared; and that there have been some so benefited as to be able to resume their former occupations. We can also understand that it may so

strengthen the patient as to enable him to make use of those hygienic means which are so efficacious; that it may thus, perhaps, indirectly cure consumption. Again, in phthisis, as the local affection is but a part of the disease, if the general health continue to improve, we may hope the diathesis will be, in the course of time, thoroughly changed, and thus, perhaps, cod-liver oil may cure consumption. But these suppositions are merely such; the assertion of its good, but limited, effects are positive. The first may happen, the last have happened.

An objection has recently been made to the use of cod-liver oil that it produces pulmonary congestion and hemorrhage. This is a plausible suggestion; we have not found it to exist in practice. The only instance in which an attack of bleeding could be positively traced to the use of the oil was that of a patient admitted for hæmoptysis, who, after having been in the house for several weeks, with great improvement of his hemorrhagic symptoms, was placed on the use of the oil from some suspicious physical signs. Nausea and emesis were produced by the oil, and a hemorrhage followed the act of vomiting. This may suggest a caution under similar circumstances.

It will be seen that in no instance did any decided benefit arise from the oil until it had been used for at least four weeks; it is equally important to observe that to be of any permanent benefit its use must be persisted in for a long time, even after the most striking symptoms of the disease have in great measure disappeared; a fact of which we have always endeavoured to impress the importance on our patients at the time of their dismissal from the hospital.

Although then, in conclusion, our experience has not been quite so gratifying as has that of some others, yet the writer is fully prepared to say that he believes cod-liver oil to be by far the best remedy for phthisis pulmonalis of which we have at this time any knowledge; and that to neglect its use in cases of this disease, unless there be a strong contra-indication, is, under existing circumstances, both injudicious and culpable.

Pennsylvania Hospital, *November* 13, 1850.

Art. III.—*Extracts from the Records of the Boston Society for Medical Improvement.* By Wm. W. Morland, M. D, Secretary.

July 22.—*Acute Laryngitis complicated with Inflammation of the submucous Cellular Tissue of the Trachea.* Dr. Buckminster Brown reported the case.—The patient was a labouring man, forty-five years of age. Was called to him March 28th. On the Tuesday previous, he had been all day exposed to a heavy snow storm, while at work on one of the wharves. The snow penetrated between his coat collar and neck, so that the sides of his

neck and throat were kept cold and wet throughout the day. At night he had a severe chill, and had a succession of chills and rigors until morning. It was impossible to warm him; he had had a cough all winter, and this still troubled him. When first seen by me, which was not until Thursday eve, he was suffering from extreme pain in the right side of his neck, extending from the angle of the jaw down to the sternum, shoulder and chest. There was an evident swelling from the lower edge of the maxillary bone to the clavicle. This part was very sensitive to the touch. He was purged by calomel and jalap, and a mustard plaster applied to the throat. This afforded very considerable relief, and in the course of the next day, the pain left this side of the throat, and attacked the opposite. Here the suffering and tenderness were also very great, and the respiration became affected. Leeches were applied, the mustard plaster repeated, and in the course of the disease, the patient was bled, but without relief. The patient was seen by Dr. Francis H. Gray and Dr. J. B. Brown. Respiration was now very laboured, and accompanied by a groan at each effort. Pulse 92. Percussion was good all over the chest. When told to take a full inspiration, the respiratory murmur throughout was perfect, but the moment the voluntary exertion ceased the patient seemed much exhausted, and sank into a dose. Not the least sound could then be heard; respiration appeared to be entirely suspended, and it was evident that no appreciable amount of air was admitted into the lungs. This was of itself sufficient to point out the seat of the disease. This phenomenon was so striking that it forcibly reminded me of the similar effect which would be produced by a paralysis of the involuntary muscles of respiration, the lungs being expanded only when the voluntary muscles were called into action.

On the 4th day of my attendance, I discovered an ulceration of the left tonsil; this was the first visible sign of disease on the inside of the throat. There had been, on previous examinations, but slight indications of inflammation existing about the fauces. He expectorated a considerable quantity of thick, viscid mucus, and some pus. Both sides were now greatly swollen externally. Deglutition neither obstructed, nor greatly painful; could swallow pills without difficulty.

On the 5th, all the symptoms aggravated, countenance expressing extreme anxiety, pulse 160, fluttering, irregular. Died at 10 A.M.

Post-mortem examination at 9 next morning. The lungs, heart, and all the organs contained within the chest and abdomen, perfectly healthy. In dissection, there was found intense inflammation over the whole internal surface of the larynx and trachea, with some effusion of lymph.

Sept. 9.—*Carcinoma of large Intestine; opening into the Jejunum.*—Dr. JACKSON reported the case, of which he had recently made the examination.—The patient was a man 63 years of age, and had been under the care of Dr. Jeffries for about four months; having been ailing somewhat for a short time before. When first seen, he had a large knobbed tumor below the left hypo-

chondrium, which was probably owing to fecal accumulation in the colon; this gradually diminished, and for the last six weeks was not felt. Great pain, with dejections; tenesmus; and towards the last, discharges of blood, with vomiting of the same. Complete anorexia for some time before death. Patient confined to his room from the first of his sickness, and to his bed for about six weeks; becoming much reduced, and extremely emaciated. Case diagnosticated by Dr. Jeffries as one of cancer of the intestine.

On dissection, a diseased mass was found, about as large as the fist, at the angle which the arch of the colon makes with the descending portion; the entire calibre of the intestine being destroyed to the extent of four or five inches, and presenting upon the inner surface an exceedingly irregular, foul, blackish surface. In the midst of this last, and insulated, as it were, was a portion of perfectly healthy intestine, more than three inches in length, and towards two inches in width; the edges only being diseased; from the development of the valvulæ conniventes, this was seen to be a portion of the small intestine. Externally the jejunum adhered, just beyond the mesocolon, to the diseased colon, and it appeared like an ordinary though very close adhesion; yet nearly or quite one-half of the calibre of the small intestine was destroyed to the extent to which it adhered. The foul cavity, then, above referred to, had a free opening, above and below, from the small as well as from the large intestine. About this cavity was a considerable quantity of soft, crumbling encephaloid substance, not perfectly opaque, but having some resemblance to a decayed pear. The other organs were quite healthy. Dr J. remarked upon these local, circumscribed, carcinomatous affections, not merely in the rectum but along the course of the colon, as of not very rare occurrence.

Sept. 9.—*Tracheotomy for Œdema of the Glottis.*—Dr. S. Parkman had recently performed this operation, on a man thirty-two years of age, who reported that he had been suffering from dyspnœa for seven weeks. On his entrance into the hospital, the dyspnœa and dysphagia were extreme; most of the fluids attempted to be swallowed returning through the nostrils. The fauces presented extensive cicatrices of syphilitic ulceration, which had destroyed the pendulous palate and the pillars of the isthmus. By the finger the epiglottis was felt swollen, and there was a sensation as if it were ulcerated. In the front of the larynx there was a small abscess discharging pus. There being no relief from the remedies employed, of which cauterization with nitrate of silver was the most active, and death appearing imminent, tracheotomy was performed, and a tube inserted. The relief was immediate, and the patient at once fell asleep, and remained so for eight or ten hours. The relief was not permanent, and the patient died with symptoms of pneumonia of both lungs, on the second day after the operation. The larynx, examined after death, presented some œdema, but the cause of the dyspnœa was seen in the thickening of the epiglottis and the edges of the glottis, from long inflammation. There was pneumonia of both lower lobes.

Sept. 23.—*Melanosis of the Eyeball.* Case reported by Dr. BETHUNE.—The patient, a gardener, thirty-six years of age, had enjoyed good health till within sixteen months. After being wet on one occasion, was attacked with pain through left eye and back of head, with redness and soreness of the organ. This continued from time to time gradually affecting the sight. No vision for six months. Six months ago the ball gave way and began to swell. This has constantly increased from that time. Right eye well. The globe of left eye disorganized and projecting between lids, of the size of a small apple; red, firm, and covered at lower part with dry, everted conjunctiva lining lower lid, at points thick and loose; around inner edge of orbit, above and below is felt a firm irregular mass.

The specimen, after removal, presented the following appearances—an ovoid mass somewhat knobbed upon the surface, as is usual in this disease. An incision having been made through the mass antero-posteriorly, it measured upon the cut surface, in this direction, a trifle over one and three-quarter inches, and, transversely, one and a quarter inches. The outline of the globe of the eye upon this surface was perfectly distinct, the sclerotic coat upon one side being entire and in appearance sufficiently healthy; upon the opposite side this tunic had disappeared, but the outline of the globe was not the less defined. Form of the globe altered, though there was no enlargement; cavity completely filled by a uniform black, melanotic mass; nothing seen of the lens nor anterior chamber; a trace of the cornea, however, was observable. Immediately external to the globe was a large mass exactly resembling that which fills the globe itself. The remainder of the diseased mass, constituting a majority of the whole, varied much in color; a part of it consisting of a uniform, close, compact white structure without any trace of discoloration, by far the greater part, however, being more or less gray and passing almost gradually into black; the consistence of this colored portion also being rather firm, or at least solid; these differently colored portions showed no tendency to intermix, but seemed almost composed of distinct globules. No fat within the mass, and none of the usual appearances of encephaloid.

By the growth of the mass within the orbit, the eye was pushed forward, so that the distance from the posterior extremity of the tumor to that of the globe of the eye measured one and a quarter inches, and this would be the extent to which the optic nerve, if it any longer existed, would have been drawn out. The incision was carried through what seemed to have been the course of the nerve, but the latter as such could nowhere be distinctly seen.

Dr. Bethune remarked that this was the third case of melanosis and fifth of cancerous disease of the eye in which he had operated. This was the youngest patient he had seen with the disease.

Sept. 23.—*Case of an Affection of the Olfactory Nerve, with total loss of Smell and Taste; with remarks upon the probable identity of these two senses.* Read before the Society by Dr. KNEELAND.—The patient was an American woman

æt. forty-seven, married, and the mother of several children; of strictly temperate habits; has worked hard all her life, but has generally enjoyed excellent health. From a child has been subject to pain in the præcordial region, accompanied with dyspnœa and palpitations, for which her physician ordered her to smoke tobacco, which habit she has at the present time.

In February, 1848, she lived in a damp cellar in Southac St., where I saw her, suffering apparently from mere debility and fatigue from too hard work; she took no medicine; removal to a better room and a little wine soon restored her. Just before her removal, she, with the rest of the family, partook freely of very gross food, which made them all sick; after free vomiting they all recovered. She remarked to me that nothing ever tasted better to her in her life than that meal; but from that day to the present, a period of two and a half years, she has never had the slightest sense of smell or taste (properly so-called).

From her complaining chiefly of loss of taste, I examined the branches of the fifth pair of nerves in the order of their distribution, expecting to find the lingual nerve, the so-called special nerve of taste, principally affected.

Motion of all parts of the face and mouth was perfect. The fifth pair going to the eyes, nose, ears, and tongue, has more or less influence on the senses connected with these organs. But the sensation of the globe of the eye and eyelids was perfect; no dryness of conjunctivæ and no inflammation of the eye. No symptoms to indicate any affection of the ophthalmic branch of the fifth pair.

There was no dryness of the pituitary membrane; common sensation of the nose perfect, both internally and externally; a foreign body, snuff, &c., excites sneezing as in any one else. Still she cannot in the least perceive the strongest odours, as ether, aqua ammoniæ; these cause an unpleasant sensation, a tickling or a burning, but no sensation of smell; she cannot distinguish ammonia from water except by the general sensation of the membrane, so that here the fifth nerve is not at fault, but the olfactory nerve.

Hearing unaffected; sensation of ear perfect. In the tongue, from tip to base, common sensation unaffected; also on gums and whole buccal cavity; motion of tongue perfect; gums sound; deglutition unaffected. No sense of taste in any portion of tongue, at tip or base; can distinguish between cold and hot drinks; can tell greasy substances by the slippery feeling, but cannot distinguish butter from lard or tallow; can tell salt from sugar by the different sensations produced; cannot distinguish molasses from honey; and cannot taste the smoke of her pipe.

Sensation of face everywhere perfect.

From these negative symptoms, and the fact that tactile sensibility in the whole of the tongue is perfect, it is evident that the fifth pair of nerves is unaffected, and that the whole trouble must be referred to the olfactory nerve.

Here is proof enough that the sense of taste is in a great measure equivalent to the sense of smell. By simply holding the nose and preventing the en-

trance of air by it, sapid substances applied to the tongue are no more tasted than they were by this patient. Thus I found that I could not distinguish the highest flavored perfumes from simple alcohol or ether, when applied to the tongue, when the nose was closed; laudanum and paregoric were the same; the poorest cake was as agreeable as the richest; but all the odour, or what is generally called taste, was immediately perceived on allowing air to pass through the nose. To all intents and purposes, any one can thus destroy his sense of taste at will.

Thinking that smoking might have in part caused the affection of the olfactory nerve, she left it off, though with no relief; she had never passed the smoke through her nose, and she had never taken snuff.

About two years after the commencement of this affection, she had a most violent attack of hysteria, simulating almost every disease, consequent, I think, on the disorder of the system usually attending the cessation of the menstrual function. No particular treatment was directed to the organ of smell, except a single application of electro-magnetism.

I have been led from the above case to the conclusions that there is no *special* nerve of taste; that all our perception of the *flavour* of substances applied to the tongue is due to the sense of smell and the action of the olfactory nerve; that what has been called *taste*, perceived on the anterior part of the tongue by the lingual nerve, and on the posterior part by the glosso-pharyngeal, is nothing but a general sensation of the same nature as ordinary touch.

That the lingual branch of the trifacial nerve has no title to the appellation of "gustatory nerve" any more than has the glosso-pharyngeal; and that neither of these has any more to do with the sense of *taste* than have the branches of the fifth pair, which give ordinary sensation to the nose with the sense of *smell*.

That division of the lingual and glosso-pharyngeal nerves impairs the sense of taste by destroying the general sensation of the mucous membrane, just as division of the fifth pair impairs the sense of smell by affecting the sensibility, secretion, and nutrition of the Schneiderian membrane. Finally, that the olfactory nerve is the nerve of smell and taste, while the lingual and glosso-pharyngeal nerves are nerves of common sensation of the tongue, as far as taste is concerned.

It has been objected to this conclusion that taste accompanies a congenital absence of smell, and that acute taste sometimes exists in persons deprived of smell. In the case alluded to, there was complete loss of smell and complete loss of taste as far as the *flavour* of bodies was concerned; the power of distinguishing hot from cold, acid from sweet, &c., was thought to be owing to the fact that the common sensibility of the tongue, depending on the lingual branch of the fifth pair, was unaffected.

Experiments of physiologists are quite contradictory in this matter of the nerve of taste. Panizza pretends that the hypoglossal and lingual nerves

may be divided, destroying the motions and sensibility of the tongue, while taste remains; and that section of the glosso-pharyngeal totally destroys taste, without affecting motion or sensibility.

Boerhaave ascribes taste to the hypoglossal nerve; Charles Bell and Magendie to the lingual. Others have placed it in the lingual and glosso-pharyngeal, the former presiding over the anterior, the latter over the posterior portion; some have limited it in one place, some in another. If authority were to carry the day, the glosso-pharyngeal, supplying the base of the tongue, where taste is strongest, has more claims to be called *gustatory* nerve than has the lingual.

The common sensibility of the tongue enables us to perceive many qualities of bodies, which combined, and acting on an organ highly acute, naturally or from education, may produce impressions easily mistaken for *true taste*, which perceives the *flavour* of bodies: thus, heat and cold, consistency, form, size, chemical and mechanical action of bodies, are perceived by the common *touch* of the tongue. It is no *special sense* of taste which acts here, but a peculiar modification of *common touch*, to suit the structure and use of the tongue. We see examples in the following, which no one will call special sense, or anything but a variety of ordinary sensibility. We have in the ends of the fingers a delicacy and peculiarity of touch existing in no other part of the body; yet no *special* sense. This is still more remarkable in the flying membrane of the bat, whose sensibility supplies the deficiency of diurnal vision; yet no special sense. The glans penis is the seat of peculiar sensations, but has no special sense. The sensation of being tickled is another modification of common sensibility existing in parts where touch is very dull. If these modifications of common sensibility are found without special nerves, there is no difficulty in comprehending that the tongue may also be the seat of a similar modification, without invoking the aid of a *special sense*, or calling its lingual nerve of common sensation the *gustatory* nerve; and no difficulty in allowing that the only special nerve concerned in *taste*, or the perception of flavours, is the *olfactory* nerve.

Destroy the first pair of nerves, and the Schneiderian membrane is still sensible to irritating vapours by the sensory branches of the fifth pair; and at the same time, the tongue is sensible to similar irritants, by the lingual branch of the fifth pair, while the flavour of bodies is no longer perceived. Now, as careful an experimenter as Magendie maintained that the sense of smell resided in the branches of the fifth pair, because common sensation remained after destruction of the first pair; may it not be, then, that the so-called case or cases in which taste is said to exist where the sense of smell is lost, are in reality only examples of the remaining *common sensibility* depending on the fifth pair, and not of *true taste*. If it be said that the sensations are too acute to be referred to common sensation, it may be replied that, as the common sensation in the ends of the blind man's fingers may be so educated as to enable him to distinguish even the *colors* of bodies (without the necessity of supposing an eye in the finger's end), so the common sensation of the tongue,

in a person deprived of smell and taste, may be so educated as to perceive many qualities of bodies imperceptible by common tongues, and so allow him what he may consider an acute taste, without the necessity of supposing a special sense of taste in his lingual nerves: the blind man's fingers perceive no light, yet they recognize the property of a surface which will reflect one ray, while it absorbs all the rest, thus enabling him to distinguish colors; the tongue, in the absence of smell, perceives not the sapid qualities of bodies, yet by experience can connect (perhaps involuntarily, and in spite of the individual) certain irritating or other properties with substances known to possess corresponding flavours; the former has, to all intents and purposes, *sight;* the latter *taste.* Some cases of alleged existence of taste with loss of smell may depend on obstruction to the entrance of air by the nose, anteriorly, by polypus or other tumours, &c., while odours from the mouth, or the flavour of food, may be normally perceived by a sound olfactory nerve, as taste is the strongest at the base of the tongue, where odours readily can reach the nose. In cases of *congenital* anosmia, we have no standard of comparison which will enable us to judge of the acuteness of taste; never having had the sense of smell, or the perception of flavours, the common sensibility of the tongue can alone be brought into play; whether such individuals have taste, as those do who can smell, neither they nor we can determine.

There is no reason to believe that the sense of smell is of less consequence to man than it is to animals, in the choice of food. It is the fineness of the sense of smell in carnivorous fishes, reptiles, birds, and beasts, which guides them in their choice of food; even savage man, more exposed than his civilized brother, has the sense of smell uncommonly acute; animals distinguish by their nose, and man by his tongue, the qualities of food fit for them; but both by the olfactory nerve. The ruminantia and rodentia, peculiarly exposed to noxious plants as food, have, in the greatest perfection, an organ connected with the nose, which is wanting in man; this is the glandular organ described by Jacobson, situated on the floor of the nostrils, communicating with the mouth, and freely supplied by branches of the first pair; this, according to Cuvier, enables them to distinguish by *smell* the poisonous properties of plants.

Allowing that taste is smell, and depends on the first pair of nerves, we can easily understand why the tongue should be supplied by the lingual and the glosso-pharyngeal nerves. Man, savage or civilized, is liable to eat many things, whose odour might be agreeable, and yet which might prove hurtful. The lingual nerve, therefore, is especially acute, and ministers to a peculiar modification of common sensibility, which rejects substances improper in temperature, consistence, and chemical or irritating qualities; while it is the office of the glosso-pharyngeal to guard the entrance to the œsophagus, and, by a reflex action, to cause the rejection by vomiting of any improper substances which the lingual nerve (and the olfactory nerve, even) may have allowed to pass.

It may here be also remarked that physiology furnishes no instance of the dependence of two senses upon one and the same nerve.

In fine, I must still express the opinion that the above case is strongly in favour of the physiological doctrine, that what is usually called *taste*, or the perception of the *flavour* of bodies, is in reality *smell;* that the *lingual* nerve, which supplies common sensation, auxiliary but not necessary to taste, does not convey *gustatory* impressions to the nervous centre; that these last are conveyed by the olfactory nerve.

Sept. 23.—*Carcinoma of Right Lung with symptoms resembling those of Hydrothorax.* Case reported by Dr. STORER.—Mr. S. aged thirty-nine, entered Massachusetts General Hospital Sept. 11th, 1850. From the history communicated at entrance, it was supposed that disease of the heart had existed for several years, and that an attack of pleurisy, which he had last spring, while residing in New York, had resulted in extensive hydrothorax of right chest.

There was dulness on percussion in lower two-thirds of right chest, with absence of respiration in same. Increased resonance on percussion in left chest; sonorous râle; impulse of heart rather increased.

While in hospital he had more or less cough, accompanied by slight expectoration of adhesive mucus. Constantly suffered more or less from dyspnœa, which obliged him to remain at times upright in bed. Respiration varied from 20 to 40 per minute. Pulse ranged from 120 to 140, generally small, feeble and at times intermitting. Renal secretion constantly scanty, though by analysis healthy.

He died on the 21st September.

Upon examination of the body after death, the following appearances were observed:—

Heart.—A slight thickening of mitral value, hardly sufficient to amount to disease.

Lungs.—Nothing abnormal in left lung. Right lung uniformly adherent to pleura and diaphragm by tolerably firm adhesions.

On incision, an encephaloid mass was found, which occupied rather more than the lower two-thirds of lung. The upper third was perfectly healthy, excepting about one inch in thickness adjacent to the diseased mass, where pneumonia evidently existed, the lung being gray and infiltrated with white lymph or pus. The disease was very strongly marked, having a suety appearance, and its limits were very sharply defined. Its upper portion was hard; in other portions where it had softened, small cavities existed, filled with fluid matter; on its edges were found spots of hardened lung, being a sort of granulated lymph or tuberculated matter. In right primary bronchus, disease had extended upon the inside within half an inch of bifurcation of trachea, reducing the bronchus to one-half its ordinary size, and the cartilaginous ridges on its cut edge were seen to be embedded in the encephaloid matter. A large mass existed behind the trachea in the cellular membrane which invests the trachea and larger ves-

sels. In the midst of the disease were found several hardened glands, much enlarged and infiltrated with encephaloid matter.

No disease discovered in other organs.

Dr. BETHUNE alluded to a similar case which came under the care of Dr. Hayward a few years since. The patient had a cancerous testicle, which was removed by Dr. H., and after death, which occurred some time after, one-half or more of the right lung was found in a state of encephaloid disease.

Sept. 23.—*Poisoning by Corrosive Sublimate. Death on the* 11th *day.*—Case reported by Dr. COALE.—Sunday, July 14th, 1850, called to Mr. J. D. H——, at 8½ P. M.

Found him with pain in limbs, headache, furred tongue, excited pulse, costive. Prescribed submuriat. hydrargyri gr. x.

Monday, July 15*th.* Called at 12 P. M. Was told that a mistake had been made by the apothecary, who had sent 10 grs. of corrosive sublimate. It had been mixed and partially swallowed, but the great distress it caused produced ejection of much of it from the stomach. By advice of apothecary, warm water had been given. Dr. Flint had been sent for and arrived soon after, and administered the usual remedy of white of egg. He remained with Mr. H. for some time, until he felt it safe to leave, and called again in the morning. I found Mr. H. vomiting a clear fluid like water, mixed with fresh blood, and suffering much pain in the region of the stomach. Taking it for granted that Dr. Flint in his two visits had administered all the antidotes required, I took measures to combat the immediate symptoms occasioned by the corrosiveness of the poison, giving twenty drops of laudanum and recommending ice cream. In the evening, found the vomiting had ceased and the patient very comfortable.

Tuesday, July 16*th.* Called early in the morning to Mr. H., who had had a violent hiccough nearly all night; recommended sulph. ether; visited him about 9 A. M. Hiccough returned at every attempt to swallow fluid. Patient otherwise comfortable. Pulse a little excited. Skin moderately cool. Tongue coated. Bowels not moved. For the hiccough, prescribed musk. Gave magnesia for the bowels.

Wednesday, July 17*th.* Hiccough still troublesome. Eruption of variola appearing. Magnesia had acted well. Tongue still coated. Skin cool. Pulse 80, regular. Blister to nape, to remedy hiccough. No other treatment.

Thursday, July 18*th.* Night tolerably good; hiccough ceased. Eruption more decided; promises to be thick about the head and around the nose. No fever; tongue cleaner. Had vomited once before breakfast; the matter was of a very dark brownish colour. I thought without doubt it was blood; demulcents and opiates prescribed; the latter only if necessary. In afternoon found him at a distant part of the room, sitting with a basin before him in the act of vomiting. He said it was only caused by the fluid meeting the wind in the

stomach; vomited matter free from blood. This was the only vomiting since the morning.

Friday, July 19th. Felt better he thought; skin cool; tongue clean; pulse 80; vomited once just after taking breakfast; but no blood; some bile with the ingesta.

Saturday, July 20th. Vomited four times; complains of exhaustion; pulse 76; skin very cool; tongue clean. Eruption going through its regular stages; thick on the head and confluent, in several instances to the extent of five or six pustules; comparatively little on the body; nose much swelled and uncomfortable from the number of pustules on and around it; treatment, ice and demulcent drinks, with opiates at night.

Sunday, July 21st. Has vomited six times in the last twenty-four hours, rather copiously; the ejecta tinged with black bloody matter, mixed with some bile. Complains of an intense distress through chest when swallowing and at other times; skin very cool, almost unnaturally so; pulse 76, regular; tongue clean. No urine has been voided since the last Sunday, one week; no distress connected with this symptom; mind perfectly clear, though he wanders much in sleep; very restless both sleeping and awake; treatment continued.

Monday, July 22d. Symptoms unaltered; strength not remarkably less; eruption beginning, irregularly and partially, to dry.

Tuesday, July 23d. Vomiting more frequent; strength perceptibly diminished, restless; skin unnaturally cold; tongue clean; pulse 76; distress through chest increased; no sore throat; no pain in abdomen; no tenderness on pressure; no urine passed; bowels evacuated; discharges very black, thin; others thin but not unhealthy.

In afternoon no improvement. Feeling uneasy about him, saw him again at 10 P. M.; found vomiting not abated; prescribed olive oil and mucilage, with opiates.

Wednesday, July 24th. Symptoms not altered except increased in severity, especially the agony in the chest; strength evidently failing; requested consultation with Dr. Bigelow. Met him at 1 P. M.; treatment not altered; in evening some apparently slight alteration of symptoms.

Thursday, July 25th. Had only vomited once since last night; distress still unabated; other symptoms much as before; a slight improvement in his appearance.

Called in the evening at about 5¾, found him dead.

Post-mortem examination at 8.

Some portions of the epithelium of the œsophagus were found removed, but Dr. J. B. S. Jackson thought that no importance could be attached to this.

The prominent point of interest in the case was the length of life after taking the poison. The entire suppression of urine; the cleanness of the tongue; the coldness of the skin; the absence of fever; of tenderness over the epigastrium, of frequency of pulse, also of any appreciable lesion after death.

Oct. 14.—*Poisoning by Corrosive Sublimate. Death on the* 13*th day.* Case read by Dr. JACKSON, observed by Dr. CHAPLIN, of Cambridgeport, having occurred ten years ago.—The patient was a married woman, twenty-five years old, who took one teaspoonful of corrosive sublimate with laudanum, for a suicidal purpose. She took the poison at about eleven o'clock A. M., and was found at about one, in the privy, vomiting and purging, with constant retching. There was pain in epigastrium, and a sense of burning and smarting in the throat. The symptoms continued gradually improving for four days, when she became able to keep down drinks, and was sufficiently comfortable. Continued confined to her bed for about a week, and Dr. C. thought she would recover; took farinaceous food, pulse 40, weak, bore pressure on epigastrium. On the eleventh day, she became worse; there being distress and restlessness; no return of vomiting, but some looseness of bowels with pus in dejections. Sank, and died on the 13th day. There was never any fever; was very pale, cool, with a look of prostration. Did not complain of debility till after the week of relief, i. e., the eleventh day. Condition of urine not noted. No autopsy allowed. The quantity of poison taken was, according to apothecary, sufficient for a pint of rum to be used as bed-bug poison.

Dr. C. E. WARE remarked that he had seen a case of poisoning by this substance, in which dysentery came on after the disappearance of the primary symptoms, causing the death of the patient on about the fifteenth day.

Oct. 14.—*Fracture of the first Lumbar Vertebra.* Case reported by Dr. H. J. BIGELOW.—A female, nineteen years of age, had, in the latter part of May, jumped from the second story window of a house, a height of twenty feet from the ground, alighting upon the nates. She was at once rendered paralytic in the lower extremities, losing all power of action, and all sensation, with complete paralysis of both sphincters. Upon examination, there was evident projection of the lower dorsal vertebræ.

At the expiration of a fortnight she recovered somewhat the power of retaining the discharges, while sensation partially returned in the limbs; yet, by the end of the succeeding week, when sensation was natural, there was no ability to move the legs.

Another marked symptom, from the first, was pain in and below the knees, excessive at toes. The bowels were constipated; while catharsis produced by medicine caused great pain, followed by prostration.

In September, the patient could move the right limb considerably, but had lost flesh. At about this time was attacked with diarrhœa; which could not be easily restrained by remedies. This continued, together with great occasional pain in the abdomen, extending sometimes to the præcordial region, and probably partly due to the lesion of the vertebra, until death.

During the month of December, the patient was attacked with pain under the left clavicle and left shoulder, and accompanied with the usual physical signs of tubercular deposit; and from this time she gradually failed; the cough

increasing and loose, night sweats supervening, emaciation progressive, diarrhœa continuous, attended with pain in the abdomen; appetite well; the pain in the legs occasionally severe.

The local sensation seemed to be natural, but the power of motion not increased in the legs. The patient died in February, about eight and a half months from the occurrence of the accident.

Autopsy twelve hours after death.—Head not examined. In *left lung* were found three or four large cavities; and miliary tubercles existed in the upper part, and throughout *right lung*. *Heart* normal. Scattered throughout mucous coat of *small* intestine were patches of inflammation varying in length from half an inch to an inch. Several small ulcerations were found near its commencement, and a single tubercle of the size of a small pea. In *large* intestine, from ileo-cœcal valve to descending colon, mucous coat highly injected, abnormally thickened and rugous. From cœcal valve to a distance of twelve inches, nearly the whole surface was in a state of ulceration. *Liver* slightly fatty; *other organs* normal.

On examining the spine, the body of the first lumbar vertebra was found to be completely crushed anteriorly, so that the adjacent vertebræ came together at their anterior edge, giving rise to considerable antero-posterior curvature and protrusion of the spinous process. The body of the same vertebra was thrust backwards in fragments upon the spinal cord, compressing it, and obliterating the canal in half its diameter. The abdominal periphery of this vertebra was also surrounded with a ring of callus, of about the thickness of a quill, and which served as a sort of splint to the adjacent vertebra. The last dorsal vertebra presented upon its superior and inferior surfaces a split or crack of a T shape, completely traversing its substance; while the second lumbar vertebra was slightly chipped upon the upper and posterior concave edge of its body.

Oct. 14.—*Extirpation of a Horn from the forehead of a woman aged eighty-two years, with a description of the case by the operating surgeon,* Dr. SOUBERVIELLE, of Paris.—Dr. J. B. S. JACKSON exhibited the wax model, belonging to the College Cabinet, of the head of a woman with a horny excrescence, from eight to nine inches in length, growing from the forehead. A model of this peculiar case is to be found in several other museums of the country. The following is a description of the case as given by Dr. Soubervielle, the operating surgeon.

"Madam Dimanche, widow, aged eighty-two years, laundress, living in the rue de Bercy, Faubourg St. Antoine, noticed, six years since, a small wart upon the forehead, just above the right eyebrow. This excrescence gradually became elongated and enlarged at its base, the skin over its summit having a dry, earthy appearance. As this vegetation developed, it presented a corneous appearance, and at the end of six years from the time it was first observed it presented the appearance of a ram's horn, being at least twenty-five centi-

metres in length, from three to five centimetres in diameter, and curved in its lower two-fifths, having a blackish-brown aspect, being deeply striated lengthwise, and of considerable weight. Its tissue was dry and brittle. One of the members of the Royal Academy of Medicine in handling it with too little care broke off its point, the interior appearing solid, compact, and its tissue corneous.

"The base of the horn was implanted in the skin of the forehead, which there presented a small circular neck, the tumour having nothing in common with the frontal bone. This circumstance rendered the weight of the horn extremely fatiguing to the patient, who, to obviate this inconvenience, had constructed a linen case, in the form of the tumour, which was encased within it, the base of the sheath being fastened to her night-cap band.

"I performed the operation of extirpation by making a circular incision around the base of the tumour, and raising from it the portion of skin adherent to it. There was no arterial hemorrhage. I covered the wound with a bit of agaric and it healed readily, almost without suppuration.

"A curious fact in connection with this case is that this patient had previously had a tumour of the same nature just above the thumb, which was removed by Dr. P——. She had also at the time of the last operation an excrescence from four to five centimetres in diameter, and of the length of the little finger, attached to one of the cheeks by a narrow pedicle, and which she removed herself."

Paris, March 12th, 1845.

Oct. 8.—*Gangrene of Appendix Vermiformis. Hardened Fæces found in its cavity.* Case reported by Dr. STORER.—The patient was a boy twelve years old, under the care of Dr. Cutter. Was taken on Friday, Oct. 16th, with symptoms of peritonitis. Dr. Storer saw the case in consultation on Friday last. He was lying on his back, with the knees drawn up, suffering from extreme pain in region of umbilicus, and from dyspnœa; with great tenderness over the whole region of abdomen. Had had no operation since Sunday. The patient died on Friday, the day of Dr. Storer's visit, after one week's illness. On examination after death, there was found gangrene of the appendix cœci, and, contained within its cavity an oblong, oval mass of hardened fæces with *several short pieces of hair running through it;* no perforation had taken place. There was general peritonitis, with a purulent deposition in the cavity of the pelvis. The omentum was very purple and also that portion of the peritoneum that lines the external walls of the abdomen. The fæcal matter contained in the appendix was quite hard, and in layers, compared by Dr. Cutter to some calculi he had seen.

Dr. BIGELOW remarked, that two questions naturally suggested themselves in regard to these cases; 1st, why certain foreign bodies should in some instances find their way into this cavity, and not in others; and 2dly, why such bodies should, in certain cases, produce inflammation of the part, while

in others they remain for years in this cavity, without producing any morbid results.

Dr. B. alluded to two cases, in one of which, two calculi were found in the appendix, which must have been there for a considerable time before the inflammation came on, which proved fatal to the patient. The other was the case of an eminent physician who died at an advanced age, and in whose appendix were found a large number of shot which had been accumulating there for years, without being followed by any morbid consequences.

Oct. 28. *Intermittent Fever, originating in Boston.* Case reported by Dr. THAYER.—A boy, twelve years old, who had been previously in good health, was on the common during the display of fire-works on the evening of Sept. 18, 1850, sitting on the ground. The air was very cool, and a fog prevailed during the evening. The next day, in the afternoon, he had a moderate chill, followed by heat and then sweating. On the third day (Sept. 20th) the chill and heat were more severe, and were repeated daily, at regular times, for ten days before advice was obtained. On the 30th Sept., Dr. T. saw him, and learned that his chill began at 5 P.M. and continued with severity till 6½, when extreme heat came on, and lasted until 11 P.M., at which time it was superseded by sweating, which continued through the night. The paroxysm was attended with severe pain in head, neck and back. During the remainder of the day, there was complete intermission, and with the exception of a degree of debility, there was no complaint whatever. Indeed, during most of the time, he had been at school as usual.

The child had lived in that part of Eliot street lying between Washington and Tremont streets, since he was six months old; and for ten years he had not been out of Boston over night; and had never in his life been farther than Dorchester.

He took sulphate of quinia, gr. 4½, daily. On the second day of the treatment, the paroxysm was not attended with pain, although the pain was present again on the third day. On the third day, the paroxysm was shorter; on the fourth, heat and sweating, without chill, and with very little pain; and from this time there was no appearance of the paroxysm whatever. On the fifth day, the sulphate of quinia was increased to 8 grains daily, and continued for four days longer.

Up to the present time there has been no return of the affection, and the child has been as well as ever.

Nov. 11. *Excision of Superior Maxillary Bone. Result unfavourable.*—Dr. S. PARKMAN exhibited the removed portion, showing a peculiar disease. A tumour had formed in the antrum, destroying by pressure the superior and posterior walls of this cavity, protruding into the cheek, and incorporating itself with the substance of the masseter muscle. In its progress, the orbitar edge and the zygomatic process were destroyed by erosion, but the bone did

not participate in the disease. A cut surface showed the structure white, and presenting fibres arranged side by side, with the appearance as seen in a common wart. The centre of the tumour was entirely disorganized, being diffluent and highly offensive. The tumour was not cancerous, and a microscopical examination showed the tissue to be composed of epithelial scales, making it probable that the disease originated in the mucous membrane of the antrum.

The patient was a man sixty-two years of age, who had suffered six months from a swelling of the right side of face, with very acute pain. Previous to the operation, the seat of the disease presented a smooth tumour extending from the temporal region to the lower jaw, measuring 5½ by 4½ inches in its two diameters, firm and painful on pressure, and causing, of course, great deformity. Enlarged veins were ramified over the surface, but these were only an exaggeration of a natural condition existing on the other side. There was no protrusion into the mouth; the teeth were all absent, but from the socket of one a small fungus protruded, and a probe passed into this opening traversed the antrum, and made its appearance in the nostril, whence there was a profuse, fetid, puriform discharge, obstructing the passage of air.

The operation was performed by a single first incision from the temple to the angle of the mouth, and a second, dividing the upper lip to the nostril; the flaps were dissected from the surface of the tumour and the bones divided by cutting forceps. After removal of the principal portion, the disease was found to have extended backwards towards the base of the skull involving the pterygoid process, &c. It was not thought advisable to pursue the dissection in this direction, and the actual cautery was freely applied. The wound was united by sutures, &c., and healed almost entirely by the first intention, the patient doing very well, until the eighth day, when there were symptoms of a pneumonic affection, and the patient died on the eleventh day. The post-mortem examination showed a pneumonia of the right lower lobe, the disease presenting some of the characters of the affection arising from purulent absorption, the inflammation concentrating itself in spots, which exuded a grayish pus on pressure.

ART. IV.—*Subclavian Aneurism successfully treated by Ligature of the left Subclavian Artery; with an account of the appearances on dissection a year afterwards.* By J. MASON WARREN, M. D. [Communicated to the Boston Society for Medical Improvement.]

THE account of the operation in this case was originally published in this Journal for January, 1849. The patient died a year after the operation, being worn out by a confinement of three months with typhoid fever. In order to

a full understanding of the appearances observed at the dissection, a brief abstract of the case will be required.

The patient was a female, thirty years old, of a delicate constitution. I saw her for the first time, in December 1847, on account of a small aneurismal tumour, the size of a pigeon's egg, placed just above the scapular end of the left clavicle. She stated that four months previously, while making the effort to extract a cork from a bottle, she felt a sudden crack at the spot where the present tumour is situated. No enlargement was noticed until some days afterwards, since when it has been gradually increasing. At her first visit to me, it had a powerful pulsation, and possessed the usual thrill of an aneurismal affection.

On an examination of the neck, the subclavian artery was not to be found in its normal situation beneath the clavicle, but after a long and critical manipulation, it was discovered running in an oblique direction across the neck, parallel with the edge of the trapezius muscle, and in company with the cervical plexus of axillary nerves. The first and part of the second rib could be distinguished above the clavicle.

The operation was performed on Dec. 24th, 1847, the ligature being applied to the vessels, between the scaleni muscles. The pulsations in the aneurismal swelling immediately ceased, and all appearance of tumour disappeared. The pulsations in the artery at the wrist returned on the second day after the operation, though feebly, but in the course of a few days they were fully re-established. The ligature did not separate from the artery until the ninety-sixth day, notwithstanding repeated efforts were made to detach it.

On September 14th, nine months after the application of the ligature, I saw the patient. She was then quite well, had recovered the use of the arm, and was in no way incommoded from the effects of the operation to which she had submitted. The aneurismal tumour had in a great measure disappeared, though more prominent than immediately after the ligature of the vessel. It still conveyed the impression to the touch of containing a fluid. On its surface was a large arterial branch, so incorporated with it as at first to give the idea of a return of pulsation in the whole mass, but which by more careful examination could be separated from it. The pulse at the wrist still remained less strong than in the corresponding artery of the other side.

She was subsequently seized with typhoid fever, from the effects of which she died, after an illness of three months.

As she lived out of town, I did not learn of her death until the following morning, when Dr. Brown and myself went out immediately, and requested an examination, which was readily granted. The corpse was already prepared for interment, so that it was impossible to make any preparatory injection for the more satisfactory inspection of the collateral circulation, which in a case of this kind would have been highly desirable.

The body was in the most extreme state of emaciation. The sternum, which was deformed, was excavated in such a manner that the posterior por-

tion projected backwards, and was in contact with the left side of the spinal column. The lungs were in a high degree emphysematous. On the neck was seen a scar, an inch in length, at the spot where the incision had been made in the operation. No tumour or other marks were observed at the point formerly occupied by the aneurismal sac.

The skin, cellular membrane and fascia being removed, the vessels and nerves were at once exposed, on account of the great absorption of the adipose substance. The subclavian artery, from its origin to the internal edge of the scalenus anticus, maintained its original size; but here it suddenly terminated. From this spot to the aneurismal sac was extended a flat cord, an inch and a half in length, seeming to be composed of little more than condensed cellular membrane. The aneurismal sac had contracted to a bulbous form, and was about twice the size of the vessel in its normal state; the enlargement suddenly ceasing at the point where the artery is embraced by the two heads of the median nerve, and the vessel regaining its natural size. On its surface was the supra-scapular artery, in this case a branch of the transverse cervical, greatly enlarged, and which gave rise to the apparent pulsations in the tumour before death.

The vessels forming the thyroid axis were twice their natural dimensions. The internal mammary was enlarged, and given off from the thyroid; it was through this, by means of the inosculations of the intercostals with the thoracic, and the posterior scapular with the subscapular, that the collateral circulation had apparently been accomplished.

Boston, *Oct.* 31*st*, 1850.

Art. V.—*Two Remarkable Cases of Abstinence.*—By Dr. Julius S. Taylor, of Carrollton, Montgomery Co., Ohio. (Read before the Montgomery Medical Society, November, 1850.)

Case I.—Mr. B. H——, aged 50, the father of a large family, had always enjoyed good health, and had been an industrious and active man. He was given to speculations, in some of which he had been successful, in others had lost. His losses, however, preponderated to such an extent that in the year 1841 he found himself nearly reduced to bankruptcy. His creditors became uneasy, and "pushed him"—which harassed him exceedingly. He lost his appetite; bowels became costive; skin yellow and dry; tongue relaxed and buffy-coated; pulse small and irregular. In connection with this train of symptoms, he became melancholy and strange in his behaviour, which, in the estimation of some of his most intimate friends, was looked upon as affectation or wilfulness. These symptoms having continued for several weeks, his anxious wife became alarmed, and sent for me as his medical adviser. I

visited him on the 7th day of February, and found his general appearance as above stated, and further, a great unwillingness to converse with strangers, or even with his family. With me, however, he conversed quite freely, and gave me a satisfactory answer to all questions in reference to his situation; assuring me, however, that my examination was useless, "as medicines would never do him any good." I became satisfied that his disease was purely mental, and advised, at once, an effort to be made to obtain a place for him at our noble State Lunatic Asylum. But upon the correspondence of some friends with the then worthy superintendent, it was found to be impossible to gain admission for him.

During the time occupied by the correspondence, I instituted such treatment as the symptoms seemed to indicate, and continued them for a few weeks, until it seemed to be absolutely nugatory, when I discontinued, and gave only advice in the way of persuasive treatment. During this time he became unwilling to converse with any person but myself, and in the month of February ceased to speak even to me. He then began to lessen his food, yet his general symptoms had changed but little, if any; and after a few days he ceased to eat or drink for ten successive days and nights. Neither persuasion, tears, nor threats, could induce him to eat or drink during that time. On the tenth day I visited him, and after talking for an hour, and asking many questions, all without the least answer or change of countenance, I then proposed to drink a glass of water with him. To this he at once consented, but said that "it must come directly from the spring in a bucket." The water was brought, and upon my proposing to drink a glass with him, he said, "You drink a glass full, and I will take the bucket." He put the bucket to his mouth, and did not take it away until he drank a little over half a gallon! This large draught of cold water produced a most violent chill, during which I proposed to him to drink some wine, to which he consented, provided I would drink "a teacupful first." It was a large dose for me; but still duty said drink, and I did; and he then drank another. The chill soon subsided, and I urged him to eat some food. This he resolutely refused to do, but agreed to visit my house the next day in a carriage, and dine with me upon "turkey."

According to agreement, his friends brought him to my house, and when dinner was ready he was seated at the table, but refused to eat. I suggested to a friend to help Mr. H., as he was feeble, and he would eat. Upon that suggestion he was helped, by putting the food to his lips, which he readily took in, after the first offer, which he resolutely refused for some time. At this meal he eat heartily of turkey, potatoes, bread, coffee, and some pie, without speaking a word, or refusing anything, until I thought he had been bountifully supplied, for the time.

During the ten days' abstinence he walked occasionally around the house, and his countenance was unaltered. His bowels had been moved once or twice during the time, and he passed urine also. He did not groan or com-

plain in any way; nor did he speak, or seem to notice anything that was passing in his family. While he was at my house, I endeavoured to divert his mind and excite him to speak, but did not succeed. After waiting a reasonable time after dinner, his friends *put* him into the carriage and returned home with him, and left him exhibiting the same fixed determination not to eat, drink or speak.

From that day he again desisted from food, or drink, or speaking for *fourteen* successive days and nights: during which time he appeared not to be weakened; nor did he present a feverish or excited appearance. His bowels were evacuated but once during the time, and he passed urine only three times. He slept generally well, and could be removed, or would move himself when asked so to do, and walked around the room occasionally during the daytime. On the fifteenth day, he yielded to the solicitation of his wife, and drank a small quantity of water, and walked up stairs to a more convenient room; and after a few days, spoke a few words to his wife, but again refused to talk to any person, or observe anything that was passing around him. Yet he would drink a little water with some milk in it; but not more than a gill a day, to the greatest extent, and oftentimes refusing this for several days at a time. This state of affairs continued, in spite of the anxious solicitations of an amiable wife and children, and all that kind friends could invent for his relief, until his death, which was on the 19th of May; he having lived about one hundred days in an almost constant state of abstinence.

During the above period, I called upon him, and recommended what, under the circumstances, seemed to be advisable. I had him taken to ride occasionally, when it could be done without too much force; gave him an injection of demulcent articles when this could be accomplished; sponged his body over, and oftentimes tried to give internal remedies, but always ineffectually. He did not seem to have lost his reason, however, to any great extent; or, at least, his friends so thought: but he had a fixed determination to die, if possible, by abstinence.

During the period which elapsed after his last total abstinence, until his death, he did not present any symptoms of pain or disease. His eyes were as bright as usual; his skin cool and natural: his urine was evacuated every ten days; but his bowels were not moved oftener than once in from eight to fifteen days, and then but very slightly. His flesh, which, when he was taken, was moderate, he weighing about 165 pounds, continued to diminish gradually until he was a perfect skeleton. He walked around the room occasionally until three or four days before his death, when he laid down and slept, and waked, without any change in the appearance of his eyes, until he died like one going to sleep.

Case II.—The next case is that of Mr. J. S——, aged twenty-six years. He had been a steady and very industrious person during his life; always attending to the directions of his parents and elder brothers, as their govern-

ment was extended over him. His health had been good during his boyhood, which enabled him to perform all the various labours incidental to an agricultural life. After his father's death, he went to learn the carpenter's trade, at which he continued until his last illness, enjoying good health, except for a few days in the year 1849, when he consulted me for a disturbance of his bowels, which soon passed away. He showed at the time, however, slight mental derangement for a few days.

In the month of January, 1849, he consulted me again, in reference to pains in his bowels, and slight headache—pupils of his eyes considerably dilated, and presenting some slight appearance of mental derangement, which appeared in his singular questions, &c. I prescribed for him, with apparent relief and satisfaction, several times, until he supposed himself well. I did not hear from him again for several weeks, when I was summoned to see him at his residence. Found him with slow pulse (65), irregular, and having a chill, followed by fever every other day; pupils dilated, bowels costive, and urine scanty. After prescribing, as I believed, appropriately, these symptoms subsided, and were followed by strong emotions of *fear*, mostly of dogs, and marked mental derangement. For the relief of this, appropriate remedies were prescribed, and immediate application was made to the superintendent of our State Lunatic Asylum for his admission there. But it was found, at that time, he could not be admitted. I gave him such remedies as the case seemed to require, until it appeared to be hopeless, when I left him under the charge of a most careful mother, and brothers, and sisters, all of whom were assiduous and devoted in devising and applying all things for his relief and cure. His mental derangement increased; he became restless, and exceedingly fearful, frequently imagining dogs to be chasing him, when, one day, in the momentary absence of friends, he plunged headforemost through the window of an upper story, and fell about twelve feet to the ground. He did not suffer from the fall, and he continued as before, gradually becoming more averse to moving, until, when the family thought it proper for him to take a ride, they had to employ force. He now began to lie continually in bed, without talking, and eating only a little once in about two days, and drinking a little water. He spoke but few words, in a feeble voice; pulse quick; skin cool; gave no signs of pain or sickness; his flesh gradually wasting away. This state of affairs continued until fifty-one days before his death, when he positively refused to eat or drink; which determination continued for twelve successive days and nights, and then he asked, with a good voice, for some water. A little was given him, which caused him to vomit; but, after trying it a few times, it remained on his stomach. From that time, for thirty-nine successive days, he drank a very small quantity of water, not to exceed one gill in twenty-four hours, but did not taste one particle of food during all the time; thus having lived one year, eight months, and sixteen days, in an almost perfect state of starvation, and fifty-one days without food of any kind. He died on the 29th of September,

1850. For the last seventy-two days prior to his death he had no fecal evacuation, but passed urine in small quantities every three or four days.

Cases of long-continued abstinence must be of exceeding rare occurrence, for I find but four cited in all the numbers of that valuable record of our science, *The American Journal of the Medical Sciences*, from beginning to end. The first case is in vol. vi., page 543, of a young man, who lived fifty-four days on water alone. The second case is in vol. ix., page 499, of a criminal, who lived sixty-three days upon water, but had convulsions, &c. The third case is in vol. xvii., page 479, of a female, who is said to have lived a year on water. The fourth case is in the New Series, No. xix., page 172, of one who lived ten days. In vol. x. of the *Eclectic Repository*, page 326, I find a case reported as remarkable for the patient's preservation after an abstinence of twelve days. In *Good's Study of Medicine*, vol. i., page 84, I find quoted several cases of very long abstinence—one of fifty-two days, one of sixty-one days, and others which are said to have existed even for years, on water alone.

These cases, as well as those reported by myself, prove the inaccuracy of the vulgar belief that a person cannot live beyond nine days without food or drink.

[*Remarks by the Editor.*—The preceding cases are extremely interesting, and are among the most remarkable for the length of time that abstinence was borne that are to be found in the annals of our science. It is a curious problem, but one which does not admit of any precise solution, what is the extent to which abstinence can be carried. Numerous instances are on record of abstinence for an extraordinary length of time; and although many of these are indebted for the credit they have obtained to the love of the marvellous, natural to the human mind, there are others, sustained by such satisfactory evidence, so carefully observed, every source of error guarded against, that we cannot refuse them our belief. THEVENOT asserts that the Arabs can remain five days without food; and others that the Tartars support abstinence for fifteen, sixteen, and even seventeen days. A woman survived nearly eight days, buried in the snow without food. (OKES, *Duncan's Annals*, iv. 500.) A young man, confined in a coal-pit, by a sudden burst of water into it, remained twelve days without any other sustenance than a little water, which trickled down a rock and was collected by him in the hollow of his hand. (T. T. GRIFFITH, *Lond. Med. and Phys. J.*, Feb. 1830, and *Eclectic Repertory*, x. 327. Philadelphia, 1820.) A woman who lost her way in a coal-pit remained for eighteen days without any nourishment except a little of her own milk for the first three days, and water subsequently. (RANKINE, *Annals of Med.* viii. 492. Edinburgh, 1804.) A maniac in the Lunatic Asylum at Montrose often abstained from every kind of food, both solid and liquid, for fourteen days in succession (*Ann. of Med.* v. 383), and PLOT speaks of a melancholic person who fasted for the same period. CHEYNE states that a phthisical patient lived thirty days upon water with a little nitre dissolved

in it. (*Diseases of body and mind*, p. 109.) Dr. FRANCIS quotes the case of a negro woman who, supposing herself affected with *Obi*, refused all sustenance for seven weeks, during all which period she took for her support only about two cups of water slightly medicated with wine. (*New York Med. and Phys. Journ.* for 1823, ii. 21.) A young woman whose case is recorded by Dr. ECCLES (*Med. Ess. and Obs.* v. art. xliii.), was affected with spasms of the œsophagus to such a degree as to be unable to swallow, and remained thirty-four days without taking any nourishment. The spasms then abated, and she continued to take some food for about three weeks, when the spasms returned, and for fifty-four days she was unable to eat or drink. In a case related by Prof. M'NAUGHTON, a man lived fifty-four days on water (*American Journ. Med. Sci.*, vi., 543); and in another quoted by VALISNIERI, the patient lived for seventy-six days. BORELLI (*Cent.* iii., Obs. 35) gives an account of a case in which abstinence was continued for three months, and MERCARDIER (*Journ. de Méd.* xxiii., 133) quotes another, prolonged for six months. Many instances of even more protracted abstinence are recorded. SCHMALS relates two cases, one of a female who lived two years and a half without food or drink, and another, a female also, who was still alive at the period of his report, and who had not eaten or drunk for six years. (See *Am. Journ. Med. Sci.* for Nov. 1833.) In a case related by VANDERMONDE (*Journ. de Méd.* xiii. 158), abstinence was protracted for twenty-six years; but the most extraordinary of all is the one related by the Rev. Mr. STEILL (*Med. Essays and Obs.* v., art. xliv.), in which the patient lived for fifty years, upon a little whey, or milk and water. HALLER has collected many cases of this description, and a still greater number have been recorded by subsequent writers. The cases, however, we have alluded to, most of which have an appearance of authenticity, are sufficient to show that it is utterly impossible to fix the limits to which abstinence in the human species can be carried.

The experiments of MAGENDIE on animals, belonging to genera near to man, show that they cannot support abstinence beyond fourteen or fifteen days. Some large dogs, however, subjected to abstinence by M. COLLARD DE MARTINGY, lived three, four, and five weeks, and ever longer. This last experimentalist also found that the younger the animal the shorter was the time that they could support abstinence; and the smaller the animal, whether of the same or different species, the shorter the period they could live without food. Of some capons subjected by REDI to complete abstinence from food and drink, none lived beyond the ninth day. One of these animals, however, to which he allowed some water, lived to the twentieth day. (*Dict. de Méd.*, 2d ed., i. 286.)

Most of the remarkable cases of abstinence we have cited, and the greater number of all those recorded by writers, were in sick persons; and daily observation shows that abstinence can be supported with greater ease in sickness than in health. Of all diseases, insanity and melancholy allow of the most protracted fasting. It is in hysteric or melancholic girls that instances of the

longest abstinence have occurred. Hard study, the ardent pursuit of objects, love, ambition, exalted devotion, all powerful excitements of the brain, cause a forgetfulness of the wants of reparation. It is reported of Sir Isaac Newton that when immersed in his studies he would forget his meals. Sleep is also favourable to protracted abstinence; it is well known that hybernating animals, as the marmot, &c., live without food during a whole season.

It may be laid down as a physiological axiom, that the more actively the organic actions are performed the more urgent and imperious will be experienced the necessity of reparation. Hence in early life abstinence cannot be borne so well as at a more advanced period. Hippocrates observed that the younger a person is the more irresistible is the sensation of hunger; and the experiments of Collard de Martigny, as we have already stated, show that the younger the animal the sooner it dies from privation of food.

Women appear to support abstinence better than men, since we find more instances of prolonged abstinence in the former than in the latter. This may arise from women, generally, taking in health less food than men, and from their suffering less loss by secretions, in consequence of their less active life.

Cold would seem to be very favourable to prolonged abstinence, by its lessening all the organic actions, and abating the losses by perspiration, &c.

Moisture has also been supposed to be favourable to the prolongation of abstinence, in consequence, as some think, of absorption taking place in the lungs, and, according to others, from the skin. Be this as it may, the length of time which persons confined in damp places have endured abstinence, seems to support the idea that moisture is somehow favourable. Various other circumstances, as the constitution of the individual, and his habits, the seasons, &c., exercise an influence upon the duration of abstinence; but we are not in possession of a sufficient number of facts to enable us to determine positively their precise effects.

For much further information on this subject, we refer to the article ABSTINENCE in the *American Cyclopedia of Practical Medicine and Surgery*, edited by Isaac Hays, M. D.]

ART. VI.—*Observations on Typhoid Fever and its complications, as it prevails in the town and vicinity of Mount Vernon, Indiana.* By W. H. BYFORD, M. D.

TYPHOID fever has been prevailing more or less extensively in our neighbourhood for three or four years, in connection with various endemic diseases. The earlier cases were less complicated and milder than those which have more recently occurred.

The most frequent subjects of the disease were young and apparently

healthy men; during the early period of its prevalence females were rarely attacked, and children under twelve years of age were almost exempt. For the last two years, however, all ages, both sexes and every condition have been seized with it. As a general rule, however, it is far more likely to attack young and robust persons than either the old or very young, and the severity and fatality with which it runs its course are augmented in proportion to the approach to the former condition.

The phenomena of typhoid fever have been so fully described, and are so familiar to every physician, that it will be only necessary here to give the characteristic features presented by the disease as it prevailed among us, and this we shall do in order to enable the reader to judge as to the value of the views we shall set forth respecting its treatment.

The onset of this fever was not characterized by any peculiarity. The disease sometimes commencing very suddenly, though generally more gradually, was ushered in by rigors more or less severe, alternating, perhaps, with heat. Headache, vertigo, nausea, with or without vomiting, are often among the early symptoms. In established cases, the patient appears somnolent and listless, with an expression of dejection and even despair depicted upon his countenance. The face is flushed and of a dingy dirty colour. The eye lustrous, yet sleepy. Sometimes the patients are vigilant, talkative and restless. Mental hallucinations with stupor were frequent though not constant symptoms. Whatever may have been the mental manifestations early in the disease, stupor, more or less profound, exists for some time prior to death, where this was the finale of the case. Headache, boneache, and many other wandering and vague painful sensations are present in most instances, accompanied in the course of the disease with muscular debility and tendinous twitchings—merely subsultus generally, but occasionally amounting to choreal grimaces and gestures, and still less frequently to violent tonic contractions of large numbers of muscles, placing the body in constrained and unusual positions. In other cases, general convulsions are observed. The headache when present is generally severe in the onset, but during the advance of the malady subsides, leaving the patient free from this species of suffering. The temperature of the surface varies from burning heat in the commencement to coolness, and sometimes absolute coldness. The skin, ordinarily dry and dirty looking, is very prone to become suddenly wet with its own secretion, soon to become again arid. The pulse is nearly always above the natural standard, numerically, and as uniformly below it in firmness; sometimes full but soft.

The alimentary canal always exhibits manifest signs of disorder. The tongue is coated in the commencement with a thick whitish mucous covering, often yellow towards the root—leaving the tip and edges only naked, which are of a fiery red colour, and disposed to crack and become sore.

In the advanced stages this red border gradually encroaches upon the coated portion, carrying the covering before it, until the whole tongue is of a deep

scarlet hue, dry, raw, cracked and sore; while sordes begin to collect about the teeth and gums, and tenacious mucus, rendering the mouth clammy and offensive to the sufferer. At other times the white or yellow fur on the tongue becomes black, as if stained by charcoal. Sickness at the stomach and vomiting, in a majority of examples, usher in the attack; but they seldom last for more than a few days, and are accompanied and succeeded by urgent thirst for cool and acidulated drinks. The bowels, usually costive at first, after a few days—from one to five—become loose and irritable, the discharges are large, serous, and generally green, and occur not unfrequently as often as every hour, though generally once in two hours. Although costiveness is generally present in the onset, diarrhœa does occasionally come on with the fever. This diarrhœa is by far the most obstinate symptom that presents itself, lasting throughout the entire progress of the case, and exhausting the patient so much that in fatal instances it seemed to me to be the principal cause of death. The discharge at the commencement, in all cases of a simple character, is serous, and is often attributed by the patient to the operation of a cathartic dose, taken by the patient upon his own responsibility, or from the suggestion of his medical adviser; and whatever the medicine may be, the result is the same. In the lapse of time, blood and mucus, one or both, may be, but are not always, mixed with the other discharges. When tenesmus and many other symptoms denoting inflammation of the colon and rectum supervene, which in most cases are apt to mark them as fatal—tympanitis, borborygmy, eructations, and the discharge per anum of a large amount of wind, generally comprised a part of the long catalogue of painful symptoms in the advanced stages of the complaint. Much less frequently the abdomen is flat and lank, with tumidity only about the iliac region. Whatever its condition may be as to tumidity, tenderness, when the patient retained his senses, is, I believe, always complained of; perceptible, possibly, only when the attention was drawn to the diseased part of the bowel by pressure. The urinary secretion varies also in quantity and quality; almost total suppression is usual, and what is secreted is highly coloured and scalding to the urethra, producing strangury that annoys both the physician and patient, and which, towards the conclusion of many cases in which much stupor existed, needs the catheter to relieve. Bloody urine, and numerous deposits with swelling of the genitals, are often observed.

Such is a sketch of the more simple cases as they occurred during the first two years after the commencement of the disease in this vicinity; and during this period I do not remember to have seen the symptoms of any other acute disease engrafted upon or blended with those of typhoid fever. As this fever grew more frequent, however, complications with chest disease became common, and now the greater majority of cases exhibit symptoms denoting this formidable complication. There is dulness on percussion over some portion of the chest; pain and difficult breathing, and physical signs indicative of some form of disease within the chest, with cough and expectoration. The

most common complication is inflammation of the lungs. Usually the first indications of disease of the chest are observed from one to five days after the onset of the fever, but in many instances they are coeval with, and indeed may even precede it. This complication is at the present time the most prevalent. I have reason to believe indeed that pneumonia had existed in several cases where the chest was not auscultated early in the case without its being discovered for several days after. A prominent instance occurred in my practice quite recently, in which the stage of hepatization was discovered by auscultation and percussion, and to which additional evidence was added the symptoms peculiar to pneumonia in its march towards resolution. All obscure examples of this complication have occurred in persons advanced in age.

It is unnecessary to enter into a more minute description of the pneumonia above, mentioned but I would add to what has already been said that all the cases intended to be included in this imperfect description exhibited completely and unequivocally the distinctive features of the two diseases. And it is this form of disease alone to which in my opinion the name of typhoid pneumonia should be exclusively applied. Indeed, it has always appeared to me a misapplication of the term to use it in connection with a disease that does not manifest this condition from the commencement.

The small rose-coloured eruption was frequently observed, but in many cases, which in every other respect were similar, these spots were looked for in vain. It may be well to observe, as confirmatory of the same statement by others, that the remittent and intermittent bilious fevers, formerly so very prevalent here, have almost disappeared since the occupancy of the same districts by this fever.

I am unable to add anything relative to the morbid anatomy of the disease, for the prejudices of friends precluded post-mortem investigation.

I wish to premise to what I have to say on the subject of treatment, the remark, that should my experience differ in respect to the use of some remedies from the teachings of the most approved authors, and the plan adopted by a large majority of my fellow practitioners, I have been driven to the use of them from a want of others that would fulfil the indications presented by the disease as it prevails here. That experience too is not the result of a few cases merely, but of laborious practice in it for three years in a locality where it is the ruling disease.

The treatment of simple typhoid fever, so far as I know, generally partakes very largely of the expectant. And this, probably, originates from the fact that most internal remedies as well as almost all ingesta irritate the bowels, and are thus injurious. The diet is a matter of the first consideration, and should be of the blandest and least irritating character. What agrees best generally is rice-water cooled with ice to suit the burning thirst of the patient, to which he may be confined for the first part of the disease; as debility indicates the necessity of more nutritious diet, animal broths made

of lean portions of flesh, any supernatant oily matter, being carefully taken off, will answer a good purpose. This kind of bland but nutritious food should be commenced early in the disease, and given in quantities sufficient to sustain the strength of the patient against the exhausting influence of the disease, with the same regularity as to time and quantity that we observe in the use of medicines. By this course we will avoid the necessity of using alcohol or other stimulants, which, when given in quantities large enough to obtain any effect from them, produce some perturbation in a system already too highly irritated. Quantity, in the use of nourishment, is a matter of the greatest importance; we should use a small quantity at a time, and repeat often enough to gain the required amount. It always has seemed to me, in the small experience I have had in the use of stimulants, especially the alcoholic, that as they are generally used they are more injurious than beneficial; that the rules for administering them should be plain and well understood; and that they should be used only when there is an unequivocal demand for them. And I think, in the case before us, we are not to prescribe wine because we are treating typhoid fever, but for no other reason than that alarming sinking is present. This will be found to be the case usually when treatment has been delayed or inefficient. The nourishing plan should be commenced early, and continued perseveringly and systematically; not by tonics or stimulants, but by the introduction of nutritive, unstimulating aliments, administered with the same scrupulous regularity as to time, quantity, and quality, as we observe in exhibiting medicinal substances.

Another point for consideration, which presents itself to one accustomed to seeing the progress of this disease, is the frequent imprudent assumption of the erect or sitting posture for evacuating the bowels and bladder. This is a fruitful source of the exhaustion supervening on the latter stages of this fever. No excuse, therefore, should be allowed the patient for the interruption of the most entire quietude in the recumbent posture. The means of obviating this difficulty are well known to all, and supplied by the many forms of convenient bed-pans now in use, combining cleanliness with convenience. Frequent change of position in the bed should also be discouraged. The idea will readily occur to every mind that frequent motion and change not only exhaust the strength directly, but also increase the irritation of the bowels, and thus indirectly contribute to the production of the same effect. The urgent thirst that sometimes occurs is too often allayed by the use of different drinks that are not the most appropriate; such, for instance, as acidulated water, soda water, and other effervescing draughts. We should recollect that in fatal cases the damage generally occurs to the small intestines, and that acids and neutral salts both will, more or less, irritate the mucous surface of that important portion of the alimentary canal. And experience teaches the important fact also, that in this disease the diarrhœa is almost immediately increased by the use of any of these articles, if used in quantities sufficient to allay the thirst. Ice water in small quantities, or ice in substance, will sel-

dom disagree, and will most effectually accomplish the object we should have in view, to cool without irritating the mucous surface. Sponging the cutaneous surface allays very perceptibly the febrile excitement, and adds much to the comfort of the patient, especially if there is burning heat of the surface—in which case alone it is applicable. So far as medical treatment is concerned, the train of symptoms which need most attention in typhoid fever is that connected with the intestinal lesions. As this, like most fevers, tends to resolve itself in health after running a definite course, our object should be to arrest the local affections presenting themselves during its continuance, which experience has proven to be most fatal in their effects. Now it is conceded by the weight of authority, that the intestinal lesions are constant and generally the most extensive in grave cases, and are manifested by severity in the symptoms pointing to this source, among which diarrhœa holds a conspicuous place, and the obstinate persistence of this sign is of fatal import. It is also obvious that its continuance must in more than one way aggravate the pathological condition upon which it depends. For example, by the irritation of transporting the contents of the upper bowels and stomach over the diseased surface—by the motion of peristaltic action, and indirectly by the motion of the patient in attending to the necessary calls. It is admitted, too, as a fact, that means calculated to prevent, or in any way mitigate, the *characteristic* lesions of fevers where they are known, such as the eruption in small-pox, measles, &c., cause them to pursue a milder course, as also to prevent the *accidental* lesions which are observed in all of them. Hence we infer that such will be the case in the use of remedies calculated to relieve the intestinal disorder in typhoid fever. The remedies, therefore, that will effect the arrest, or even a considerable moderation of the diarrhœa—which is so constantly draining the system—without proving deleterious otherwise, are the great object of our search. In any organ inflamed, in which motion is a part of its function, rest, if not indispensable, is at least desirable in the treatment of that inflammation. Now as the motion in this case is in a great measure dependent upon the irritation produced by this inflammation in the moving part, and as we cannot remove this cause of irritation by any means within our power, the only resource left is to allay that irritation by the use of soothing medicines. The one, according to my experience, best calculated to do this is opium, in as large doses as are necessary to restrain the diarrhœa, and repeated as often as the patient can bear it. I am aware that opium to any extent, in the disease under consideration, is objected to by many on account of its effects upon the brain, causing stupor, delirium, &c. But we are led to suspect disease of the brain when upon examination no lesions are discoverable—and we should not abandon the use of a remedy for fear of possible danger from it. If we were to do so, we might lay aside many of our most useful and efficient drugs. I think, then, we can make the use of opium the rule instead of the exception. A fact might be mentioned here, which I believe is not generally practiced upon, as to the effects

of this medicine upon local inflammation; viz., to keep the system under the influence of large doses of opium for several days will render local inflammations of the mucous membranes mild and manageable that have for a long period resisted the most judicious management. Thus patients affected with chronic ophthalmia often take sixty grains in as many consecutive hours, with the most happy effect upon the conjunctiva.

My usual management is to commence with an emetic of ipecacuanha, and follow it in five or six hours with a cathartic of calomel and jalap, in order to effectually empty the stomach and bowels, and thus be prepared for any other treatment that may be indicated. For a febrifuge when there is no pain or soreness in the abdomen, or diarrhœa, the James's powder, or nitrous powders were generally used. When the abdomen is tympanitic, however, with pain and diarrhœa, all other medicines are laid aside for opium in some shape, and the one commonly used is Dover's powders, in as large doses as the stomach will bear, or sufficient to allay the pain and diarrhœa. And should this not be sufficient, opium is added to them, in sufficient doses to have the desired effect, if possible. And although occasionally some degree of stupor may be the result, it is seldom considerable, and never increases to an alarming extent, although as much as thirty grains in twenty-four hours were given. In many instances where delirium, restlessness, subsultus, and jactitation are great, they are *all relieved*, and the patient much improved by full doses of opium, repeated so as to keep the patient constantly under its influence. I have witnessed cases in which the medicine was suspended from some imagined bad effect, with a return of all the distressing symptoms above named, again disappearing so soon as it was resumed. And in all cases, with very few exceptions, where this course was continued, the patients comfortably weathered through their disease and recovered, it only being necessary to gradually increase the dose to keep up the effect. The complications of this fever, of which by far the most common are pneumonia and bronchitis, although they somewhat modify, do not change the treatment necessary. And however inappropriate opiates may be in the ordinary forms of pneumonia, especially when so frequently repeated, they have in my experience, I may say, invariably produced beneficial results in cases supervening upon or accompanied by typhoid fever. Indeed, the symptoms all yielded sooner than they do under any other course of treatment I have seen adopted. The treatment I have seen most effectual in this complication, after an emetic and cathartic, consisted in calomel and opium, according to the condition of the bowels, repeated every three or four hours until the mercurial influence was indicated by the ordinary affection of the gums and salivary glands. When this was brought about, the calomel was discontinued and the patient put under the opiate treatment, as above described. Mustard plasters and fomentations early, and blisters at a later period, constituted the local treatment used in such cases.

Case I.—*February 4th*, 1838. Was called to see J. H., aged twenty-six years, sanguine bilious temperament. Had been sick four days with fever, pain in head, vertigo and slight delirium at night; aching of bones and back, nausea and sense of heaviness of epigastrium. Tongue coated yellow, edges and tip red, bowels costive, soreness over the whole of the abdomen, with tension. Skin hot and dry. Pulse 120, weak and small. Urine scanty and high colored; in short, he was labouring under typhus fever, which was then prevailing. Ordered an emetic of ipecac, to be followed in four hours with cathartic of calomel and jalap. After the operation of the cathartic, to take six grains of James's powders every three hours; and should the bowels be operated on too freely, to take Dover's powders, gr. viii, every three hours until the discharges are checked. Sponging of the surface, cold to the head.

5th. Cathartic operated in two hours, very copiously. Has taken several of the Dover's powders; but yet the bowels act as often as once every four hours. The stools are thin, greenish, serous, without a trace of fecal matter. Delirium is more decided; the patient is restless and talkative, but not raving; the surface over the abdomen very hot, less so elsewhere, but rather above the natural temperature; tympanitis; the tenderness great over the middle and right side of the abdomen. Tongue dry and red on the tip and edges. Vomits the James's powder. Take Dover's powders gr. viii with gr. ss of opium every three hours. Foment the abdomen with warm camphorated spirits. Take teaspoonful of chicken-water every four hours. If bowels are not restrained, take thirty drops of laudanum as often as necessary to effect this object.

7th. Patient is better; has rested well; complains of no pain; more rational. Pulse about 120, weak and small. Complains of great debility. Has had but two operations from the bowels since last visit, which was directly after it. To keep perfectly quiet in the recumbent posture. Continue the medicines and nourishment as last prescribed.

9th. Continues about the same as at last visit; has had four dejections from bowels. Nurse found it necessary to give the laudanum several times; does not remember how often. The opium in Dover's powders was now increased to three-fourths of a grain, and direction given to administer laudanum if necessary. Continue chicken-water, &c.

11th. A slight improvement in all the symptoms. Had one passage, which was more consistent and fecal. The patient continued gradually to improve; but acquired a still further increase of the opiates, until he took two grains of opium every four hours, with laudanum between these doses occasionally.

J. H. was under this treatment for twenty-eight days, during which time, he seemed benefited by each increase in the dose of opium. It appeared always to quiet his restlessness and delirium, which was aggravated upon every return of diarrhœa. When opium produced merely quiet sleep and the patient could be easily aroused, which was the case with almost all the instances I have witnessed in typhoid fever, I consider it advisable to continue it.

I might detail many cases like the above; but as the symptoms and treatment vary so very slightly, I think it quite unnecessary.

The following is a case complicated with pneumonia, in which the opiate treatment in a modified form was used with great apparent benefit.

Case II.—W. C., aged 28 years, was attacked, March 1st, 1850, with typhoid fever, which continued without other than the ordinary symptoms of

the disease, until the evening of the 4th, when he suddenly became chilly, and began to experience difficulty of breathing; had pain in the right side extending to the shoulder, cough, and next day was expectorating the rusty-looking sputa so common in inflammation on the lungs. His condition on the fifth was the following: Countenance anxious and suffused, with a dusky blush; pulse 120, weak and small; tongue covered with dark brown fur on the middle and root, while the edges and tip were red and glossy; nausea but no vomiting, diarrhœa of thin dark serum, attended with pain, which dated from the operation of a dose of Cook's pills. On the third day of the disease abdomen tender, and tympanitic with borborygmy, subsultus tendinum and stupor, from which the patient could be easily aroused, and when awake his conversation was vague and incoherent; pain of a dull heavy character in the right side and shoulder; cough, with bloody tenacious expectoration; dulness on percussion over two-thirds of the right lung, below and behind; absence of all respiratory sounds in the lower portion; fine crepitus in a line across the chest, about two inches wide, rather above the middle of this side. Ordered an emetic of ipecacuanha, followed by the following powder every three hours: Cal. gr. ii; ipec. gr. iv; opium gr. i. Mix. Mustard all over the affected side; fomentations with hot camphor to the abdomen; a teacupful of chicken-water every four hours, and drink to consist of gum-Arabic water. *7th.* Was better, for first twenty-four hours, but since that his bowels have been moved too frequently; is becoming quite weak, otherwise the symptoms are about the same. Continue the powders and pursue the other directions with addition of Dover's powder gr. viii; as often as necessary to keep the bowels in check. To observe absolute quiet in the recumbent posture. *9th.* In nearly the same condition as at last visit, except that his bowels have been controlled by taking a Dover's powder between each of the other powders. This treatment was continued for four days longer, when the gums became slightly affected by the mercury. The symptoms of pneumonia gradually subsided, and in a few more days the simple fever, so far as could be judged by appearances, was the only disease present. On the supervention of ptyalism the calomel was omitted, and the opium and ipecac. with the addition of two grains of camphor to each powder. Dover's powder was continued. It was necessary in the progress of the case to increase the opium in the powders to two grains, and to continue the Dover's powders in the above doses. The patient lingered for seventeen days before the fever began to yield; convalescence then gradually set in and continued, when the opiates were gradually diminished in quantity until he was out of all danger.

My object in the above communication has been to detail, in as intelligible a manner as I could, a course of treatment which I think will be found beneficial in many instances of this troublesome fever, and I am in hopes that no one will condemn the course above described without first giving it a trial. I believe they can the more readily consent to do this from the consideration that the treatment is not so defined either by authority or the interpretations usually put upon symptoms as indications for treatment, as not to justify any course, however different from the one commonly followed, that experience may upon trial sanction.

I would here mention another circumstance which I have often observed in this fever, viz., that purgatives or laxatives produce very exaggerated effects when administered by the mouth, and will mention one instance

as illustrative of their kind of influence. I have a patient now under treatment who informed me that one teaspoonful of castor oil operated on her in five minutes, very copiously, producing violent griping pains. She also informed me that in an ordinary way she required more than the usual dose to affect her. On the second day after she mentioned it to me, it became necessary to administer another laxative. I determined to satisfy myself whether she was mistaken in this respect. I accordingly gave her a teaspoonful of oil, and in ten minutes she had a copious serous evacuation, and it was necessary in half an hour to resume the opiates in order to control its effects.

Although the above is an extreme case, yet it will be necessary to bear the fact in mind, and use injections alone as laxatives to avoid undue irritation of the bowels.

ART. VII.—*Cases in Surgery.* By D. GILBERT, M. D. (of Gettysburg, Pa.), Prof. of Surgery in Med. Dept. of Penn. College, Philad.

THE publication of cases in illustration of subjects which characterize progress in any of the practical departments of medicine, is necessary to the full development and illustration of principles involved. With this view, the following practical details in surgery have been selected from my case-book, and are respectfully presented to the notice of the profession. The practical procedures are either entirely new, or illustrate such as require further confirmation. It is, therefore, believed that their publication will add something to the common stock of our surgical knowledge.

CASE I.—N. S., æt. forty-three. Health enfeebled for several years by impaired digestion, sustained severe injuries of the knee, thigh, and pelvis, caused by falling timbers, at "a raising" of a barn, August 10, 1850. On examination, aided by my partner, H. S. Huber, M. D., found that the injured parts had been caught between falling timbers, three of which fell severally upon the parts injured. The thigh bone was fractured in the upper part of the lower third obliquely. The knee had been dislocated laterally, but reduced before we arrived. The lateral ligaments being torn, the articular surfaces could be moved upon each other, from side to side, very easily. The soft parts from the knee to the thorax, including the penis and anterior part of pelvis, were seriously contused, and ecchymosed. We adopted the angular method, temporarily, until the apparatus for the straight plan of treatment could be provided, it being at some distance in the country. This was procured next day, and applied in the usual manner: except (1), instead of the permanently attached block of Hutchinson, a movable one, which I have found more convenient, was used. This may be made of inch plank,

the shape of the figure 4, the longest side measuring about eight inches. It is attached flatwise, by passing the extended part, as a tenon, through a mortice hole, one inch square, in the long splint, and securing it there by a pin passing close to the outside of the splint; the long side of the triangular portion on the inside of splint presenting obliquely towards the foot of the patient. (2.) Instead of a mere extension band, I attached this to the straps of a common tourniquet, close to the sole of the foot, and placed the instrument upon the distal side of the block, which is at right angles with the splint, and thus, by the screw of the tourniquet, increased or diminished the extending power at pleasure. (3.) Instead of the perineal band, I had an opportunity of testing the value of *adhesive plaster* as a counter-extending bandage. Dr. Wallace, of Philadelphia, introduced, several years ago, the use of this in making extension at the ankle; and my experience with it has been so favourable that I concluded to use the same material in counter-extension on the first opportunity. This case, all will admit, presented a rare occasion for testing its utility, as the condition of the parts would not allow the use of the ordinary bandages.

The several constituents of the apparatus having been laid down in the usual order, two adhesive strips, two and a half inches wide and two feet long each, were laid diagonally, one from either side, above and upon the tailed bandage, so that their inner extremities crossed each other at an angle of about 100°, and extended about four inches farther. The strip which laid towards the sound side was rolled up from its outer extremity to the point of crossing, and the short inner end of the other strip to the same point. The patient being placed upon the apparatus thus arranged, the unrolled strip attached itself to the posterior surface, from the perineum to a point above the ileum; the roll of the other was brought over the perineum, upper part of thigh, and up inside of the cresta of the ileum to meet the other strip; its inner extremity being under the posterior surface of thigh, and the short roll of the posterior strip occupying the inner and partly anterior surface of thigh, their point of crossing being brought to inner and upper part of thigh close to perineum. Externally, the extremities of these strips also crossed each other—the posterior to the upper mortise hole, and the anterior to the lower mortise hole of the splint—in order to increase their surfaces of attachment to the body of the patient. The application of the remainder of the apparatus being completed, extension and counter-extension was made, and subsequently maintained. Without giving the subsequent treatment in detail, it is sufficient to say that no complaints were uttered in reference to these adhesive bands, although, by means of the tourniquet, they were held in a state of constant tension. The contusions and laceration of the ligaments of the knee yielded to anodyne resolvent washes, and, at the end of seven weeks, the bone was firmly united. To insure entire safety, the limb was placed on the double inclined plane for another week, when all retentive measures were abandoned. At the end of four weeks, after its first application, the anterior adhesive plas-

ter became loose, and Dr. Huber supplied its place by another somewhat longer; with this exception, and one renewal of the extending bands, they were not removed during the whole period of treatment. There is no shortening of the limb, although the fracture was oblique.

The advantages of a movable block are, that it does not interfere when the splint is rolled in the cloth, and can be attached to whichever side of the splint presents towards the patient; and, above all, it furnishes a secure place of attachment for the frame of the tourniquet, by means of which continued and varied extension is always at the command of the surgeon. Our greatest difficulties, however, ordinarily arise from the pressure and excoriation caused by the extending and counter-extending bandages at the ankle and perineum. The lameness of the Marquis de Lafayette resulted, it is said, from *ulceration* produced by the perineal band when he was treated for this fracture. To obviate these sources of embarrassment in the treatment of fractured thigh, materials combining softness and firmness have been selected, made into various forms, so as to extend, distribute, and vary their points of contact, and press equally, smoothly, and softly; and yet, to render these tolerable, with the best appliances, it is found necessary to remove the bandages daily, and bathe the parts with spirits, or mild liniments, thus protracting union by frequent motion, besides requiring the daily service of the attending surgeon. In hospital practice, such attention is provided for; but in country locations, where the medical attendant cannot visit the patient oftener than once in three or four days, the consequences are sometimes disastrous. During his absence, the patient, unable to endure the pain, loosens the bandages, and displacement is the consequence; or, resolving bravely to endure the pain, the practitioner finds an amount of excoriation, with a morbidly irritable condition of the constitution from suffering, which seriously interfere with the successful issue of the case. These difficulties, every one who has had experience, has realized; and hence the numerous modifications of apparatus which are met with in the journals, as well as in the regular treatises on surgery. Many of these are excellent in their way, and, if every practitioner was provided with them, they would prove valuable; but, as all the indications can be answered, in the great majority of the fractures of the thigh, by the apparatus of Desault, and as this is available everywhere, it becomes a matter of importance that this should be improved. Whether the modifications described above will prove as valuable in other hands remains to be tried; but, so far as the experience of the writer extends, he has found that there is an entire absence of pain from pressure, abrasion, or excoriation, so common in the ordinary method; that there is no necessity for slackening bandages, for the purpose of bathing the parts or intercepting soft substances; that, hence, union will be more certain and speedy, all motion of the bones being prevented; and that extension, sufficient to overcome the muscular contraction, can be maintained constantly by the tourniquet, and shortening of the limb prevented.

Case II.—*Fibrous Tumour in the substance of the Uterus.*—I was requested in the autumn of 1844 to visit Mrs. B., æt. forty, of bilious temperament, general health good. Had given birth to a child, now living, when she was twenty-one years of age. Was married about four years previous to this visit. Found her suffering intensely from strangury, being the period of her menstrual flow; was informed that for several years she invariably suffered during this period, for which she took anodynes. Made an examination per vaginam, and found a large tumour, nearly filling the superior strait of the pelvis, extending from above the umbilicus down to within an inch of the perineum. I found the os tincæ on the anterior part of the tumour about an inch from its lower extremity; its form was changed, being extended from side to side about one and a half inches. I could pass the female catheter its entire length into the cavity of the uterus. I introduced the speculum uteri, and found that the tumour was covered by mucous membrane, and that instead of the pure white which is characteristic of fibrous tumour, it presented the normal colour of mucous membrane covering the uterus. Having ascertained these facts, I had no difficulty in deciding that this was a case of fibrous tumour in the substance of the uterus, occupying its posterior wall; the whole organ having been distended by this adventitious growth. Having introduced the catheter, to relieve the bladder, I gave her anodynes with diuretics. After the menstrual period had passed, I prescribed laxatives and Lugol's solution, in the hope that the increase of the tumour might be prevented. At this time I did not think of any operation, as Dupuytren, after his extensive experience, as well as other writers, pronounce this variety of tumour beyond the reach of operative means. Soon after my return to the country from Philadelphia, in the spring of 1845, I was again summoned to my patient; found the tumour increased in size, and the mechanical obstruction so great that she had to use her fingers in aid of defecation, and had increased difficulty in voiding her urine, which passed in small quantities during severe and protracted efforts.

I again explored the parts thoroughly, found them as in first examination, except that the tumour had increased in all its dimensions, and measured, as nearly as I could ascertain, about fourteen inches in its long diameter, being spindle-shaped, while its short diameters were those of the upper strait of the pelvis, which it filled. Finding this increase in bulk, and there being every reason to believe that it would continue to grow, and thus entirely occlude the passages for the urine and fæces, I determined to resort to operative means, although without precedent to guide me. Supposing that the areolar tissue between the tumour and uterine substances might be found abundant and loose, I concluded to make an effort to draw the uterus down as near as possible to the os externum, make an incision upon the tumour, and with the aid of fingers, scalpel handle, and occasionally the edge of the scalpel, I might be able to divest it of its uterine covering and remove it. Having made every preparation, I succeeded in bringing down the uterus by the aid of a large tenaculum; made an incision, but found the cellular tissue so condensed that

it was manifest the tumour could not be removed in this way. I then made very free and large incisions into the tumour, with the expectation that the imperfectly organized mass would become atrophied by the discharges which must ensue from these incisions, since union by adhesion or granulation could not here take place. Success beyond my most sanguine expectations followed this procedure, the tumour diminished in size, and I have not been called to prescribe in the case or to pass the catheter during the last five years.

Cases III. and IV.—*Tracheotomy for the removal of Foreign Bodies.*—In these cases, the one aged one year, the other three and a half years, the operation was performed in the usual manner with entire relief of symptoms of impending suffocation, and yet the foreign bodies were not discharged or extracted through the opening made. In the case of the youngest child, a part of a grain of roasted coffee had been drawn into the windpipe with the inspired air, and immediately gave rise to the characteristic symptoms of foreign body in the trachea; the paroxysms recurring more frequently, and becoming more alarming in their character, the operation was performed at the end of forty-two hours after the accident. The coffee not appearing at the opening made, a probe was cautiously passed down into the bronchii and up through the rima, but the foreign body was not discovered. Having observed the patient to swallow immediately after the opening was made, the mother was directed to examine the diapers, and thus next day was found the undigested piece of roasted coffee, which doubtless had been located above the opening and was carried up into the pharynx and swallowed as soon as the spasm of the muscles of the larynx was overcome by the free admission of air below. In the other case, a piece of raw sweet potato had been taken into the windpipe during violent inspiratory efforts when at play with other children. There was immediate dyspnœa, threatened suffocation and livid countenance; these symptoms subsiding, the parents supposed that there had merely been an arrest of the body in the œsophagus. The paroxysm recurred, however, when they sent for their physician, J. Weaver, M. D., of York County, who requested that I should be sent for, as an operation, in his opinion, was the only means of relief. We found indubitable evidence of the presence of the foreign body in the *trachea*, and the low operation was performed in the usual manner. In this case I observed that a moment after the opening was made in the trachea, the child swallowed, and exclaimed "Now it is out." All the symptoms of foreign body in the windpipe disappeared. The probe was, however, carefully introduced, as in the other case, and with the same results. Both cases had a rapid recovery, and did well.

Case V.—During the same season (the fall of 1846) in which these operations were performed, a boy aged six years was brought to me from York County, who had a few days previously, whilst at play, drawn a grain of corn into his trachea. The operation was performed by opening the trachea, and

the grain of corn was immediately expelled by the violent action of the chest in expelling the pent up air.

In performing this operation for the removal of foreign bodies, every surgeon must have observed this violent expulsion of the accumulated air within the lungs, not only through the opening made but also the natural passage through the larynx, in consequence of the removal of all spasmodic closure there, as soon as the opening is made. Foreign bodies, then, which are located above the opening would naturally be carried by the upward current into the pharynx and swallowed, whilst those below would most likely be expelled at the new orifice in the windpipe.

In performing this operation for the removal of foreign bodies, I make the opening into the trachea on the left side at about two lines from the mesial line, so that the orifice is completely closed by the overlaying muscles and fascia. I was led to adopt this method after having heard of two fatal cases from effusion of blood into the trachea after the wound was closed externally. Supposing this valvular closure sufficient to prevent such a result, after waiting for from half an hour to an hour after the operation, I permanently closed the wound, and union by primary adhesion usually is the result. In one of my cases there was secondary bleeding a few hours after closure, but the blood passed outwardly, the respiration not being impeded in the slightest degree.

Case VI. *Luxation of the Shoulder-Joint.*—W. C., a large muscular man, in falling to the ground from his feet and attempting to save himself by throwing out his right arm, dislocated the head of the humerus into the axilla. Reduction, by the aid of two assistants, was accomplished in the following manner: A piece of muslin three yards long and one wide was gathered up in the hands lengthwise and the central part applied to the axilla, thence upwards anteriorly and posteriorly to the top of the shoulder close to the neck, where it was crossed, binding the shoulder firmly and fixing the head of the scapula immovably. From this point, one remaining portion of the band was carried to the sound side anteriorly and the other posteriorly, and given to an assistant for counter-extension. To the other assistant I gave the end of a towel, which was attached to the arm for extension. I took my station behind the patient, placing my fist of the left hand in the axilla, and seized the lower end of the humerus with my right hand. I then directed the assistants to make slow, steady and firm traction, and so soon as I found the head of the bone sufficiently down, I suddenly depressed the lower end of the humerus, my fist acting as a fulcrum, and the head of the bone resumed its place in the glenoid cavity.

Having experienced great difficulties in effecting reduction in my first case of luxation of this joint, owing to the mobility of the shoulder, which permitted the glenoid cavity to maintain its abnormally relative position to the head of the bone, during the application of the extending and counter-extending forces, as usually applied, I was led to adopt this plan, and with invariable success

without resort to bleeding or nauseants. By this method of applying the counter-extending bandage, besides fixing the shoulder, and obtaining complete command over this and the arm, the bandage in front as it crosses the neck, presses upon the windpipe of the patient, producing the sensation of choking, which throws him momentarily off his guard and the head of the bone readily slips into its place. Having taught this method for several years in the college, former pupils now in the profession have reported like success in their cases, by this plan of fixing the shoulder and withdrawing the attention of the patient from the seat of injury, at the moment when reduction is made.

ART. VIII.—*Remarks on the Treatment of Cholera.* By RICHARD MCSHERRY, M. D., U. S. Navy.

IT becomes sometimes as much a matter of duty for a medical man engaged in the active duties of his profession to contribute his mite to the general stock of knowledge by confirming or disproving the statements of others as by advancing theoretic or practical novelties. Whenever a formidable epidemic invades a civilized community, it is due to science and humanity that those who have to contend with it should give to the world the result of their experience; and to do the profession justice, it must be admitted that no class of men can be found to bestow more freely the precious results of their hard-earned knowledge. But it may happen that the very "multitude of counsellors" will confuse the mind of the student who is trying to fortify himself with the experience of others before it devolves on him to meet the enemy front to front; he has so many expedients to resort to, and is armed with so many weapons, that he runs the risk of being overthrown before he can determine which to choose. One plausible writer has told him that in cholera asphyxia opium is the sovereign remedy; another says no, that mercury is; another says camphor, quinine, ammonia, acetate of lead, or some other of the "thousand-and-one" remedies mentioned is most to be relied on, each directing something different from the rest, confusing inquirers to such an extent that it is little wonder if some practitioners jumble together not only in their own brains but in the stomachs of their patients all of these heterogeneous materials at once. Now it is an opprobrium, *maxime deflendum*, that to this day there is no systematic course concurred in generally by the profession in the treatment of this disease. The question may be asked here, Whether any treatment deserves to be considered scientific as heretofore practiced, or whether it may not all be called empirical? My own conviction, founded on experience, is that notwithstanding too many of our brethren are ready to be deluded by charcoal and sulphur specifics, others, taking certain rational data, use certain remedies for

definite ends, which, when accomplished, tend to the cure of the patient. Cholera has its philosophy, and although in its nature there are depths not yet fathomed by human wisdom and research, yet we find that it produces certain obvious conditions in the system, which conditions we may change and modify by familiar agents. This is scientific practice.

Among the many able documents which have proceeded from the medical press in relation to the disease in question, I beg leave to refer to two which have appeared in this journal as embodying, in manner clear and unencumbered, nearly all the information that the physician *can reduce to practice at the bedside.* I cite the article of Dr. Shanks in the No. for July, 1849, and that of Dr. Gayley in the number for the same month, 1850. These two gentlemen both treated their cases with remarkable success, and although there was considerable difference in the mode of treatment, both kept steadily in view the same object, viz., the unlocking of a thorough congestion of the greatest gland in the body. The liver, it is true, is not alone in the congestion, but it stands like a great dam in the circulation between the portal system and the heart, thus causing inordinate fulness or congestion in the vessels of the stomach and bowels. By a process of exosmose, says Dr. Gayley, the watery parts of the blood find their way into the intestinal tube and pass off from the stomach and bowels, carrying in their downward course the epithelial scales washed from the surface of the mucous membrane, and giving the discharges the appearance of rice water. Now the mere arrest of these discharges while the function of the liver is totally suspended is not sufficient to cure the disease; the floodgates of the dam must be opened; a scavenger must be sent to clear out the closed channels of the obstructed and obstructing organ. When this is effected, we have sufficient concurring testimony to prove that the disease is overcome. Dr. Shanks says that in every stage of the disease, with two doubtful exceptions, "when bilious discharges from the bowels were obtained, recovery speedily and certainly took place." Dr. Gayley, premising that the great desideratum is to unlock the secretions of the liver by setting the cells to work, says "that the experience of the profession is that nothing will do this so well as calomel," which he properly designates as the "sheet anchor in this terrible malady." He gave calomel, and calomel alone, and saved thirty-two out of thirty-five cases. Now with such success one might readily be willing to forswear opiates, camphor, brandy, chloroform, etc. But may not adjuvants be essential in certain cases? The most fearful congestions are certainly relieved frequently by large doses of quinine, of opium, etc., and there is every reason to believe that in such cases they have saved life in many instances. Dr. Shanks combined opiates with calomel, because he had been convinced "by years of careful observation of the importance and necessity of the combination in congestive fever of the continued form, and from the pathological likeness of cholera the same practice to some extent was adopted."

In the summer of 1849, being attached to the U. S. Naval Hospital, near Norfolk, in association with Drs. Patton and Whittle of the navy, we received

a number of cases of cholera at various stages of development. We concurred in the treatment which made calomel the "sheet anchor," but did not reject the adjuvants; we used, in short, freely, calomel, opium, and camphor, pounded ice, cups over stomach, &c., and sinapisms and frictions to extremities; in some cases, quinine; and, as of secondary importance, a house prescription, though not peculiar to the house I believe, an anodyne and diffusible stimulant mixture of Hoffman's anodyne, spt. camphor, paregoric, and comp. spt. lavender, and more rarely alum, or sugar of lead. We treated between fifty and sixty cases, one-half of which, it must be understood, did not get beyond the premonitory, or first stage; but the others went on to the distinctive developments. We lost but *two* cases during the summer; one of these came into our hands actually moribund; the other, a noble specimen of the physical man, was brought to us on the evening of the 5th of July, having arrived from Philadelphia with a body of recruits. His disease took him *en route*, on board of the Baltimore boat, where he received no treatment. When brought to the hospital from the receiving ship, we learned he had rejected all medicines from the stomach before fairly swallowed. (By the way, it is to be regretted Dr. Gayley's plan of administering calomel had not been here used, *i. e.*, to apply it dry on the tongue with a little sugar, to be washed down with a small draught of ice water). By the active use of ice and counter-irritants, we succeeded in suspending the vomitings long enough to introduce a few doses of calomel and other medicines. The progress of the case continued unfavourable, and, at 3 o'clock A. M., on the 7th, he died. The *post-mortem* examination presented the usual appearance, except that, I find in my notes, "the coats of the small intestines were considerably injected; within the canal *yellow bile* was mixed with other fluids." In the large intestines, there was no bile, but the dingy fluid usually passed from the bowels made thick and pulpy with the loosened epithelial layer and mucus. We thought our remedies had commenced to act when it was too late to save life, and that, had that bile been started by a single dose of mercury, when he was taken on the boat, the issue might have been entirely different.

But a few days ago I was called, in connection with my father, Dr. Richard McSherry, of this place, to attend an advanced case of cholera, in the person of a lady just arrived from Cincinnati. When we first saw her, she appeared to be verging upon a state of collapse. Her features were pinched and shrunken; large dark circles surrounded her eyes; the pulse could scarcely be distinguished by the most careful examination; she was passing rice-water stools, and vomiting the fluids she drank. The tongue had lost its natural warmth, and she was suffering violent cramps, which last alone induced her to call in a physician. Her general appearance indicated the near approach of death. She was given immediately calomel gr. xx. with laudanum; sinapisms and frictions were applied to the extremities, cups over the stomach, as recommended by Dr. Condie in his notes to Watson's *Practice*, and hot epithems of turpentine. Meantime, we made an extemporaneous prescription of paregoric,

camphor, and sulphuric ether, to be given in brandy and ice p. r. n. as diffusible stimulus and anodyne; this we kept up during the day, with small doses of calomel and opium every hour. The discharges began to be checked in quantity, and at length presented a darker color, with some feculent smell; with this the pulse improved, though the patient was not aware of any improvement. The next day, as the stools were still frequent and watery, we gave calomel and quinine, every two hours, in doses of gr. iij each, alternated with sugar of lead and opium, in the doses recommended by Dr. Condie. By next morning, the stools were decidedly bilious, and, as the mouth was touched, the mercury was stopped. Our patient, though free from the cholera, suffers greatly with excessive nausea, which seems to be owing to a secretion of viliated bile collecting in the stomach and bowels; mild emetics of warm water and salt give very temporary relief by bringing off some of the bile. I gave her one or two doses of castor oil and turpentine, as she complained of a most uncomfortable feeling of fulness in the abdomen. The action of the turpentine was followed by the most painful micturition, to which, she tells me, she is subject at times when in her ordinary health, which at best is not very good. My friend, Dr. E. B. Pendleton, of this place, saw the case with us. Her convalescence is fairly established, this being the sixth day of our attendance.

Martinsburg, Va., *July 19th*, 1850.

Art. IX.—*Poisoning by Corrosive Sublimate.* By H. W. Williams, M. D. (Read before the Boston Society for Medical Observation, August 19, 1850.)

The following report of a recent case of death, after the ingestion of a solution of corrosive sublimate, is interesting from the insignificance of the pathological alterations exhibited upon post-mortem examination.

I was called about noon on Monday, 12*th August*, to see L. B. R., aged 42, mason; and was informed that he had purposely swallowed a solution of corrosive sublimate. On my way to the house, I learned that he had taken about an ounce of a solution, containing thirty grains to the ounce, and that about half an hour had elapsed since it was swallowed. Was told that he vomited in ten minutes after the poison was taken, and that an emetic was soon after administered by the apothecary who sold the solution, as also one egg. Another egg had been given him by his wife before I saw him. He had vomited several times, in all about six ounces. The matters vomited appeared to consist of mucus and the egg swallowed, with some dark masses resembling sputa except in having a dull lead tinge.

I administered the whites of three more eggs, and whilst others were being

procured, gave some flour and water. Three more eggs were brought and given, vomiting having taken place since the previous remedies had been swallowed. Within half an hour he vomited several times, and I repeatedly gave quantities of flour and water.

I learned from his wife that his habits were intemperate, that he had eaten little for two or three days, and nothing on that morning.

He stated that he took the solution after stirring it in a tumbler with a little sugar.

I found him rolling uneasily about the bed, complaining of severe headache, and great pain in the stomach. When asked to point out the seat of the pain, he passed his hand over the whole of the upper portion of the abdomen. When asked if he had pain in throat, he replied, a little but not much. The fauces were considerably injected. No tenderness on pressure in any part of abdomen. Conjunctiva injected; pupils natural, and sensitive to light. Face rather collapsed and covered with cold perspiration. Tongue nearly natural in aspect, but cool. Hands and feet rather livid, shrunken, and cold. Pulse very rapid and small. Respiration natural. He had had several dejections, consisting of a dark fluid, with some small lumps of dark green fæces, previous to my seeing him.

Vomiting continued till about one P. M., the matters ejected consisting principally of the substances swallowed. Twice, portions of blood were mixed with the matters thrown off.

I directed flaxseed tea to be prepared, and gave it freely. It was eagerly taken, the patient complaining of intense thirst. His aspect is precisely that of a patient attacked by cholera, but who has not yet reached the stage of perfect collapse. Pulse could not be felt at wrist; at the carotids and heart it was 168, feeble, regular. He rolled so incessantly from side to side that it was difficult to distinguish pulsation, even at heart. He complained of a burning sensation in abdomen.

Dejections were frequent, and towards two o'clock several followed each other at intervals of only two or three minutes. They continued to exhibit similar appearances, being almost entirely dark fluid; but several of the last had a quantity of flakes, apparently of mucus mingled with them. He got out of bed without difficulty, but said he felt easier when lying down, as he was dizzy whenever he lifted his head from the pillow. Complained of cramp in left leg.

I ordered bottles of hot water to be placed at his feet, and directed that his limbs should be warmly covered. Directed that two more eggs should be given, and followed, after an interval, by draughts of flaxseed tea.

Again saw him at three P. M. Pulse had returned at wrist; 140, feeble, regular as to frequency, but varying in strength. Face rather less collapsed. Feels less pain. He has vomited the flaxseed tea, and had several small bloody fluid dejections containing small masses of coagulated albumen. They were free from fæcal odor, but had the fleshy smell, sometimes observed in

similar dejections in cases of cholera. He still rolls uneasily about the bed. Conjunctiva less injected. Tongue natural in aspect but cold. Extremities still livid and clammy, but less so than when I last saw him. Face free from perspiration. Great thirst. No tenderness of abdomen. Ordered small quantities of rice water to be given to relieve thirst. Pulv. opii gr. ½ every hour till pain is relieved.

Six P. M. Pulse more feeble than at 3 o'clock. Has no pain. Dejections, of the same dysenteric character, have continued frequent. He has persisted in drinking large quantities of water, and has therefore vomited copiously. General aspect unchanged. Ordered more attention to limit the amount of drink, and pulv. opii gr. ½ every half hour till he becomes quiet.

Nine P. M. Pulse fuller, 118. Fingers still corrugated and cold; tongue cool, natural in colour; face dry; conjunctiva natural. Pupils rather contracted. He has appeared inclined to dose after taking the opium, but has not slept. Great fœtor of breath. His wife says she has previously noticed this, but never in so great a degree. He has no pain, but is very restless, and has the aspect of a patient suffering an attack of delirium tremens. He formerly had an attack, induced by his having fractured a limb. No tenderness of abdomen, but it feels extremely hard on pressure, though it is not at all distended. Passes very little urine. Drinks have still been placed within his reach, and he has vomited freely. Has had several dejections, three at least, since last visit. Ordered bits of ice to be placed in his mouth instead of permitting him to drink. Pulv. opii gr. i; to be repeated every hour if he does not sleep.

August 13th. Face less collapsed; hands a little less shrivelled, but cold and clammy. He drank during the night from the bottles placed at his feet. Slept a little towards morning. Pulse 98, a little fuller than last evening. Tongue clean, warm; no tenderness or pain in abdomen. Has had but one dejection, but has vomited several times. Has a sensation of phlegm in throat, and has frequently expectorated. The sputa appear tough, and are free from any tinge of blood. Ordered rice water to be given as an enema, with morph. sulph. gr. ¼. If at the end of an hour he is still awake and restless, the enema to be repeated with morph. sulph. gr. ½.

One P. M. Patient disliked the enema, and but a small portion was given, which was retained. No attempt was made to repeat it. He has not slept, and his aspect is still that of delirium tremens. Pulse 120, very feeble; pupils contracted; conjunctiva natural; face not moist; tongue a little loaded with a brownish coat; hands and feet cold and moist; no dejections. He has been allowed to drink water, contrary to my express directions, and has vomited as often as he drank. Ordered morph. sulph. gr. ½, to be given in solution by the mouth, and repeated if ineffectual.

Nine P. M. No tenderness of abdomen. Some small, dark, fluid dejections. He has not been properly watched, and has constantly been jumping out of bed in a state of excitement. Has vomited. General aspect unaltered.

Slight brownish fur on tongue. Extremities cold. Ordered hot bricks to be placed about his limbs. Morph. to be increased to three-quarters of a grain, and repeated if requisite.

14*th*. Has not been watched during the night, but sometimes left alone. He has, therefore, been restless. Pulse 140, more feeble. Tongue a little dry, slightly furred. Has some tremulousness of hands. Rises for his dejections with more difficulty. Has passed urine with his dejections, but with difficulty, and in small quantity. Several small dejections, containing a few small lumps of fæcal matter. Emesis has occurred a number of times. He seems inclined to spit quite frequently. I ordered that he should not be left alone. The room to be darkened, and morph. sulph. gr. i to be given.

One P. M. Has not slept. Face has a more collapsed aspect. Pupils moderately contracted. Tongue as this morning. Pulse 94. No pain. No dejections. Has vomited greenish fluid. He has not been watched, and is more delirious. Thinks persons are concealed near his chamber, and persists in rising from bed to eject them, as soon as he is left alone; but he is easily controlled, and answers rationally when spoken to. He has some desire for food, and, as his stomach rejected fluids, I allowed him to have a small piece of biscuit, which he said was good.

On calling at six P. M., I was informed that he died about half past four. Soon after I left him, he went down stairs, and, on being induced to return, he fell, as his wife stated, in a fit. This was recovered from, and he died very tranquilly.

Autopsy twenty-five hours after death.—Present, Drs. Storer, Dalton, Buckingham, and Thayer.

Brain healthy in aspect and consistence. The falx cerebri was wanting for the distance of about an inch at its anterior extremity, and the two hemispheres were united at this point. Considerable fluid was effused beneath arachnoid, but no effusion into the ventricles. Heart and lungs healthy; the latter remarkably so. Liver pale, rather friable. Spleen shrivelled, as in cases of death from cholera. The stomach was contracted, for the extent of about two inches, at its middle portion, having the form of a dumb-bell. The contracted portion was about two fingers in width. It contained a small quantity of bright yellow fluid, having the consistence of thin gruel. Its larger and smaller curvatures presented patches of dotted injection, of a bright crimson tint. The dots could be seen, on close inspection, to be made up of vessels. No ulceration, and no ecchymosis. Mucous membrane a little softened in the neighbourhood of the most vivid red patches. Patches of beautifully arborescent vascularity were observed at intervals along the whole course of the small intestine, but its mucous membrane retained its normal consistence. Large intestine healthy. No ulceration in any portion of intestinal canal. Lower portion of œsophagus not injected, nor its lining membrane softened. Bladder contracted, containing about a drachm of turbid urine, which Dr. Dalton found, on examination with the microscope, was ren-

dered cloudy by the presence of a large quantity of epithelium scales, and similar to the urine found in the bladder after death from cholera. Other organs healthy.

ART. X.—*A case of Tumour in the Bladder.* By C. J. CLARK, M. D., of Jacksonville, Alabama.

CALLY DENSON, farmer, a large man, aged sixty-two, apparently of good constitution, had enjoyed robust health, until about two years ago, when he began to suffer from what he considered symptoms of "stone in the bladder." He voided urine with difficulty, having to strain hard to make it pass. By degrees he had to make water more frequently than usual, and suffered from constant sense of uneasiness about the bladder. These symptoms grew gradually a little worse in the course of the first year, during which time he used various domestic remedies for "gravel." After awhile he began to be troubled with constipation, for which he took cathartics; subsequently had hemorrhoids. About the end of the first year he began to notice "a hardness" in his abdomen just above the pubis, which gradually increased until he could distinguish a large roundish tumour. This he took to be an "obstruction in the bowels," as he had constantly to take some laxative to keep his bowels open. By this time he had great difficulty in voiding urine, and frequent calls to do so. Says that the urine would sometimes suddenly stop while flowing, then flow again by changing his position; and that he was frequently in the habit of going to the corner of the fence and placing the perineum against the end of a rail and making pressure, which enabled him to void urine when he could not do it otherwise. Has frequently had an itching sensation about the end of the urethra. Had very copious hemorrhage from the bowels a few months ago, probably from the rupture of a hemorrhoidal vein. Since then has not suffered much with the piles. Applied to a quack, who told him that the tumour in his hypogastrium was caused by his "melt," which had got down there; and that the hemorrhage from the bowels "came from the melt."

His urine has never presented anything remarkable; has been higher coloured at some times than at others. Has never passed any gravel. Has been for two weeks taking a nostrum from another quack, who promised to dissolve the stone in his bladder and thus cure him. After taking this a few days, he passed some blood and a large amount of mucus in his urine. This "solvent," I happen to know, is a strong solution of a peculiar kind of caustic potash, called in this State and Tennessee "wetfire," where it has obtained some celebrity in the hands of certain empirics as a caustic and solvent for urinary calculi.

Some three weeks ago Denson began to have slight fevers, and to suffer more than usual with a pain through the tumour passing down towards the perineum. The pain has continued to grow worse, the desire to void urine more constant and urgent, until within the last week his sufferings have become almost intolerable.

Jan. 1*st*, 1845. To-day I saw the patient for the first time, and obtained the foregoing history from him. He now suffers a constant, dull, heavy, aching pain through the tumour and perineum. He has to void urine every hour, and sometimes oftener; and it is done with great pain and straining, only a small quantity being passed at each effort. The flow of urine is assisted by pressing upwards and backwards on the abdominal tumour. Has constant fever rather of a typhoid character; some thirst; no alvine evacuations without taking medicine, and then it requires great straining to empty the bowels; countenance dejected; very low spirited; skin dry and hot; tongue rather dry, with red edges and thick fur on top; cannot turn in the bed without great pain; testicles and spermatic cord painful and much swollen. Upon examining his abdomen, I found a large tumour rising from the pelvis up to the umbilicus. Its surface felt perfectly even and smooth through the abdominal walls. I could not detect any elasticity, yet there was not a distinct sense of hardness. On introducing a finger into the rectum, a large tumour was felt filling completely the superior strait and upper part of the pelvis. It felt smooth and uniform, and distinctly elastic. I next proceeded to introduce a catheter. The instrument was arrested about the membranous portion of the urethra. At this point the passage was very sensitive, and the introduction of the instrument caused great suffering. After repeated fruitless efforts with different-sized catheters, I took a very small bougie, and succeeded in passing it through what I took to be a stricture, and into the bladder. The bougie tapered, and when the larger part came to the strictured point in the urethra it would pass no further, consequently the end of the bougie merely reached the cavity of the bladder, without passing any distance into it. As the patient had suffered greatly from the attempts at catheterism, in consequence of the inflamed and highly sensitive condition of the urethra, I determined to put him on a course to relieve these symptoms, hoping afterwards to succeed in the introduction of the catheter.

I ordered him to sit in a warm hip-bath until it caused a feeling of faintness and relaxation, and repeat as often as his strength will bear it; a laxative to move the bowels: infusum diosmæ with spts. etheri nitrosi; also some carbonate of soda; fomentations to abdomen.

After weighing all the symptoms and probabilities, I came to the conclusion that it must be one of those cases of retention of urine and enormously distended bladder that occasionally occur in old men. It is true he had passed more or less urine every day in small quantities at a time. He was of the opinion that the whole amount passed each day was small, and there had been difficulty in voiding it for two years. And we know that old men sometimes suffer

great distension of the bladder notwithstanding they pass some urine from day to day, but there is not so much passed as is secreted. I was further strengthened in my diagnosis from the fact that the abdominal tumour was perfectly uniform on its surface, that it presented precisely the shape of the fundus of the bladder greatly exaggerated, and though not elastic it did not give a sense of hardness to the touch. And further, the pelvic tumour examined through the rectum presented the shape of the "*bas fond*" greatly distended, and was highly elastic. The obstruction in the urethra I took to be a stricture, and supposed from several of the symptoms which have been previously narrated that there might also be a calculus in the bladder.

Jan. 2*d.* Says he feels better; that the warm bath has soothed him greatly, affording more relief than anything he has done before.

Is very feeble; had considerable fever last night; laxative has operated; had much straining at stool; has as much difficulty in passing urine as ever, but it is not of so high a colour. He insisted that I should not attempt to introduce the catheter for twenty-four hours longer, and allow him to continue the treatment prescribed on yesterday.

3*d.* Found him no better; had considerable fever last night; is more feeble than on yesterday; was much exhausted this morning on coming out of the bath. I now attempted to introduce the catheter again, but after repeated and persevering efforts failed. I next tried to pass the small bougie, but could not even succeed with that. I now sent for Doctors Francis and Pelham in consultation. The Doctors had great difficulty in satisfying themselves as to the nature of the affection. Thought there might be some kind of tumour in the bladder; but upon examining the elasticity of the pelvic portion, it was agreed that it must be a case of retention of urine; and at all events, if there was a tumour within the bladder, that it contained a fluid; and further, that as the symptoms were urgent and the bladder could not be expected to stand the great distension much longer, the only thing offering any prospect of benefit was puncturing through the rectum. He was accordingly placed across the bed, with his hips resting on the edge and his feet drawn up. Kneeling before him, I passed the index finger of my left hand up the rectum to the tumour. Taking a small trocar and canula in the other hand, I guided it up, and placing it against the tumour about ¾ths of an inch from its anterior edge, pushed it in. I withdrew the trocar, and, lo! instead of urine, dark red, and rather thick blood poured slowly through the canula!! The blood discharged was inodorous, and after standing a long time seemed a little thicker, but did not coagulate. Fully a quart was discharged without producing any effect whatever on the patient's pulse. The canula was withdrawn, and upon examination the pelvic tumour was in a measure gone and the parts flaccid. Dr. Pelham now suggested that this might be a large hemorrhoidal tumour that we had evacuated, and that we might now succeed in introducing the catheter. He then took a strong silver catheter, and after a persevering effort succeeded in passing it into the bladder, when to our astonishment, instead of urine, here came the

same dark red blood again!! The nature of the affection was now revealed. We had a large bloody tumour of some kind filling the bladder and distending it until the *bas fond* filled the pelvis and the base extended to the umbilicus, being as large as the uterus of a woman at the seventh month of pregnancy. After about a pint of blood was discharged it ceased flowing, but upon moving the catheter a little it commenced again. I now took hold of the instrument and found I could move it about through the mass, apparently breaking it up; and it seemed to require but little more force to break it up than would a mass of coagulated blood. At each time the instrument was moved and a fresh part broken the blood flowed more rapidly. Some parts seemed to be of a firmer structure than others, and could not be broken down with the catheter, though none gave the feeling of ossific or cartilaginous hardness. In all about two quarts of this dark red blood were removed, lessening the size of the tumour considerably, but still leaving it very large. The evacuation of the blood did not appear to have any effect on the patient's pulse or strength. He said he felt easier and that the weight and pain were less. We now left him under the use of fomentations and anodynes until to-morrow.

4*th*. Rested somewhat better; has suffered much less pain. Has not been compelled to evacuate urine so freely, but still has great difficulty. The urethra became plugged up once or twice from clots of blood. Is growing more feeble; had an alvine evacuation without so much straining as heretofore. At eleven o'clock to-day had a long shivering fit; his pulse sank, and he became covered with clammy perspiration. Says he has no pain now except when he moves.

5*th*. Had another rigor last night, and one this morning before day. Is greatly prostrated; pulse feeble; bathed in cold clammy perspiration; can scarcely speak audibly.

6*th*. Died this morning. His wife would not allow a post-mortem examination.

This rather curious and perplexing case fell into my hands a few years ago. It is now published partly for the purpose of putting it on record as a singular case; and partly to prepare my professional brethren against similar difficulties in making out a diagnosis, should any of them meet with a case of the kind. It is much to be regretted that in many of our most interesting cases we are debarred the advantages of post-mortem examinations by the people for whose benefit we live and labour.

[There can be but little doubt that the tumour in the bladder in this case was a malignant fungous growth, but it is greatly to be lamented that a post-mortem examination was not allowed.—EDITOR.]

ART. XI.—*Cases of Puerperal Convulsions.* By JOHN P. LITTLE, M. D., Richmond, Virginia.

THE following cases were met with whilst I was a country practitioner in Orange county, Virginia.

In forty-five cases of labour, three cases of this formidable disease occurred: these are reported in the order in which they presented; and to them is added another case, illustrating the power of the human system to resist without apparent suffering, or even sympathy, the delay and danger of a protracted and difficult labour.

CASE I.—A young, strong negro woman (servant to Mrs. Roach, of Orange Co.), pregnant with her first child, was seized with a convulsion early on the morning of the 15th of April 1847. I reached her at sunrise, an hour after its occurrence, and found her lying unconsciously, breathing stertorously, her pulse full and hard and the pupils dilated. She could be roused with difficulty, and answered at random a question asked her. A violent convulsion seized her as I sat beside her bed; it was preceded by the usual symptoms of uneasiness of body, rolling of the eyes, irregularity of the pulse, &c.; the face became distorted, the eyes turned up, foam flew from the lips, and the whole muscular system was violently convulsed. Immediately the arm was tied up, and as soon as the convulsive efforts allowed it, a vein was opened by large orifice; the amount of blood was not measured, as effect alone must regulate the amount of bleeding in such cases; she was bled into a state of semi-consciousness. Antispasmodics and purgatives were administered. The mouth of the womb was open, as in the commencement of labour; the lips thick and rigid, scarcely if at all dilated under the contractions of the womb. There was every prospect of a difficult, tedious, and dangerous labour. Another and another convulsion appeared, with a shorter interval as the labour slowly advanced; between them she lay comatose.

Every means was used to relax the mouth of the womb, to hasten the labour, and to avert the danger to the system from the shock of the convulsions. Warm fomentations; dilatation with the fingers; bleeding largely twice repeated, according to the indications of the pulse and the convulsion, and each time with good effect.

The free depletion by venesections and purgatives mitigated the severity, yet the continuance of the labour increased the frequency of the convulsions.

The head, a very large one, was impacted in the superior strait; the os uteri although rigid was somewhat open; the womb was acting strongly and the woman in convulsions. I decided to open the head, and deliver as rapidly as possible. Dr. Graves being called in consultation and agreeing with me, I proceeded to deliver; placing the woman in the usual position, the head was opened and as much as possible of the brain removed; then, compressing the bones of the cranium, with much difficulty the body of a very large fœtus was withdrawn.

A violent convulsion occurred during the delivery, and another preceded it; making in all ten violent convulsions during the twelve hours that elapsed from the occurrence of the first one to the delivery. The womb seemed to have exhausted itself; it remained relaxed, and hemorrhage came on; by stimulating the womb and by injection of infusion of ergot this tendency to flooding was overcome; not, however, until she had lost much blood. I hoped

that with the delivery the convulsions would cease; as another fit occurred, and she still lay comatose, I shaved the head and cupped freely the nape of the neck; the blood flowed very freely from the scarifications.

She passed the night in a comatose condition; symptoms of another fit showing themselves, and the pulse justifying it, she was again bled on the second day of attendance; on this occasion she flinched from the lancet. Her head was now covered with a blister (one had after cupping been applied to the nape), and after it had freely drawn, as she still lay in a state of stupor, a warm poultice was applied over the whole scalp, having previously clipped the blisters and covered the poultice with spirits of turpentine. This was done on the afternoon of the second. She exhibited symptoms of uneasiness at this application; yet it was not until suppuration had been freely established over the whole scalp (although antispasmodics and purgatives with diuretics had been freely given and with effect), that she, on the morning of the third day after her delivery, opened her eyes and appeared conscious. She was not able to speak, yet made known by signs that she wanted drink and food; it was most singular to see her eye and gesture asking to satisfy her appetite, yet possessing neither speech nor hearing. As there was still a tendency to stupor, and as all the faculties had not returned, the applications to the head to encourage suppuration were still kept up.

Speech and hearing and intellect gradually returned; in the course of four or five days she could give some account of herself; and I found that she was utterly unconscious of all the circumstances connected with her labour. The lochial discharge was encouraged by warm fomentations and attention to cleanliness. She made a rapid and perfect recovery; and, undeterred by the failure and danger of her first experiment, has since borne with safety to herself living children.

In reviewing the case, I regret that I did not cup earlier, and apply cold to the head; it should be done in all such cases. Of the quantity of blood lost I cannot speak accurately; she was four times bled, there was hemorrhage, and a very free cupping on the nape. The venesections were regulated according to effect, and not according to quantity; and this I esteem the only safe rule of guidance in similar cases.

The two other cases occurred in women who had each borne many children. They had been accustomed to be bled freely during pregnancy, by way of removing hyperæmia; and the bleeding had been either very slight, or altogether omitted before their last labours.

Case II.—A servant (40 years of age, pregnant with her twelfth child, in whom from a tendency to anteversion of the womb her labours had been more and more difficult), was taken with convulsions March 14, 1848.

Her situation not being known, as she lived some distance from her master's house, she lay twenty hours in this condition, having convulsions, and lying comatose between them. I saw her in the tenth, and immediately opened a vein, drawing off some three pints of blood. The convulsion ceased, yet not even semi-consciousness returned. The bladder and rectum were emptied, cathartics were administered, and the head elevated and kept cool.

On examination, the mouth of the womb was found tilted backwards in the upper part of the vagina, and very slightly open. With some difficulty it was brought down, and by assisting each pain, gently opened with the fingers; the head presented, the occiput placed towards the left sacro-iliac junction; the

head was then pushed up, one knee seized, and delivery effected by turning; the child was dead. This was not accomplished until several convulsions had occurred, and a second bleeding, not so large as the first, had been made. She lay comatose; and with the exception of one convulsion after delivery, remained so for two days, and then died. In this case also the scalp was shaved and counter-irritation used. Serious mischief had resulted from absence of medical aid in the commencement, and no subsequent treatment could remove it.

Case III.—Mrs. Jacobs, of middle age, the mother of several children, a woman of strong constitution and robust health. After a few days' indisposition, she was taken with convulsions July 14th, 1849. A physician being called in, she was freely bled, and on their return was again bled.

I was called in consultation on the morning of the 16th; she was then in a convulsion, which made the eighth during the two days of attack. I instantly tied up her arm, and bled freely, until a state of consciousness returned, and she could answer my questions.

On examination, the mouth of the womb was found slightly open, and the head presenting, yet no contractions of the womb were perceived.

She lay as one sleeping heavily, yet could be roused with difficulty. My advice was to stimulate the womb to contract, by dilating the orifice with the finger; if this failed, to use ergot by injection, and to rupture the membranes, turn, and deliver. I have always found it safer to use ergot in this manner than by the mouth; it does not disagree and cause vomiting, and its effects can be obviated by washing out the rectum, if considered necessary. My plan is to give by the rectum the dose usually given by the mouth, repeating it as the indications require; and when given in this manner it appears to excite rather the alternate contractions of the womb, than that peculiar tetanic action following larger doses. Its effects may be guarded by opium given with it; which, while it does not appear to affect the womb's contractions, mitigates the severity of pain. In this case the contractions came on regularly, the membranes were ruptured, and my colleague, losing the opportunity of turning, allowed the head to descend.

The woman, conscious of pain, though not of the cause, struggled and complained. Her pulse rising, and symptoms of convulsions appearing, I reopened the vein, and allowed blood to flow until they ceased, and she became conscious. The contractions came on with force, the instinct of labour seemed to lead the woman to cease her uneasy struggles, and to bear down until delivery was accomplished by the expulsion of a dead child; a tendency to flooding was manifested, and checked by pressure, by injections of ergot, &c.

Her convulsions had not been powerful, and her comatose condition not complete, as she seemed conscious after delivery. I left her in the hands of the attending physician. Convulsive action, however, came on, and stupor, although purgatives and diuretics had been employed; I had the head shaved, blistered and poulticed as in former cases; consciousness returned when the scalp was pouring out serum, and remained. In the four bleedings in this case, half an hundred ounces of blood were lost. There was in none of these cases the profuse perspiration that usually accompanies labour; the want of free sweating is said to be one of the accompanying symptoms of the disease.

Case IV.—A young healthy negro woman (servant to Mr. Hudson, of Culpepper Co.), pregnant with her first child, had been in labour three days when I was summoned in consultation. June 8th, 1847. I found her lying perfectly free from pain, pulse natural and skin cool; without any apparently

bad symptom except the continuance of the labour; the head presented; the membranes were long since ruptured, and the perforator had been used to pierce the head. I first gave ergot by injection, to cause contraction and prevent flooding in delivery; and then broke up the brain and delivered a very large boy. In spite of the ergot, flooding showed itself, and it was necessary to introduce the hand into the womb, turn out the clots, and make pressure within and without; contractions came on and with care were kept up.

The bladder was found enormously distended; the urine had been accumulating during the whole time of labour. So long-continued distension produced atony; and it was some time before the use of the catheter, and of that class of diuretics which act especially on debilitated fibre, as buchu, tinct. cantharidis, &c., could be dispensed with.

She recovered slowly, yet without a bad symptom. I should have supposed this a case where convulsions, or some severe consequent of labour, might have been expected.

Puerperal convulsions or eclampsia is attributed to many causes; to congestion of brain; to irritation of spinal cord, or of excito-motor system of nerves, either directly or sympathetically; to pressure made on sacral nerves, or to toxæmia, caused by pressure of gravid uterus on kidneys, preventing secretion and elimination of urea, and producing a poisonous state of blood.

The most satisfactory opinion to my mind is that its primary cause consists in the hyperæmic condition of system which belongs to pregnancy.

That the contractions of the womb, and the pains of labour, react sympathetically on the nervous centres, causing an increased flow of blood to those cavities, thereby producing convulsive action, and its consequence, stupor. That the presence of the fœtus in utero is, therefore, the proximate cause of convulsions. And that the most judicious plan of treatment consists in the early and free use of the lancet (used according to effect alone), and then in accomplishing the delivery as rapidly as is consistent with the safety of the mother. That, as incident to this treatment, should be used free evacuation of the bladder and rectum; cold to the head; cupping to the nape of the neck; and if the uterus become flaccid and inert, an enema of sp. turpentine, or of ergot, may be administered; the latter especially if hemorrhage be feared.

That if the state of stupor continue after convulsive actions have ceased, counter-irritation over the whole scalp, and even suppuration should be brought on.

Opium has been recommended in large doses by Dr. Robert Lee, and by Dr. Meigs, after free blood-letting, to calm the sympathetic excitement of nervous system.

In none of these cases did I dare make use of it; in fact, the tendency to cerebral congestion and effusion is so great that I should hesitate to use it, and certainly not until the delivery had taken place, as the continuance of parturition would keep up the tendency to convulsions.

The opinion of Burns, that pressure on the sacral nerves is one cause of

convulsions, should have weight enough to cause frequent change of position for our patient. And the proof advanced by Cormack and Simpson of Edinburgh, that albuminous urine accompanies puerperal convulsions; that urea exists in the blood; moreover, that in all such cases there exists very little perspiration, by which elimination of poisonous matter might take place instead of by the kidneys; this is sufficient to justify the use and explain the benefit of diuretics and laxatives in all such cases.

The disease may be averted by preventing its causes; and when it has made its appearance, if not early closely attended throughout, and properly treated, may be considered a disease very much under our control.

ART. XII.—*Notes of a case of Poisoning by Arsenic.* By BENJAMIN W. ROBINSON, M. D., of Fayetteville, N. C.

ON the night of the 8th of November, 1849, I was hurriedly summoned to Mr. Alex. C. Simpson. Found him with a countenance evincing great anxiety and distress, surface cold, pulse extinct, respiration somewhat hurried, and complaining of intense pain, which he referred directly to the epigastrium, with a sense of sinking at the precordia. To allay the pain, which he declared to be insupportable, I was in the act of administering a dose of morphia, when his medical attendant, Doct. Mallett, entered the room. The Dr. agreeing, twelve or fifteen drops of Magendie's solution of sulph. morphia were given. From Dr. Mallett, I learned that he had been called to the patient about ten o'clock that morning, when he was informed that Mr. S. had been sick all the preceding night with nausea, vomiting, thirst, and pain at the pit of the stomach. These symptoms existed at the time of Dr. M's. visit; the patient's pulse was rather small and feeble, which was ascribed to nausea, and he vomited some mucous matters tinged with bile. Dr. M. ordered a mustard poultice to the epigastrium, and a pill consisting of five grs. calomel and 1¼ grs. opium as soon as the stomach could retain it—to be repeated in two hours. Saw him again in the afternoon; was told that during the interval of his visits Mr. S. had had several dark and fetid evacuations from the bowels. Finding his symptoms aggravated, Dr. M. directed a dose of morphia, and left with a promise to see him again after tea. To rally his rapidly failing powers, we gave ammonia and brandy in repeated doses—administered an enema containing brandy and quinine—had frictions practiced with dry mustard—warm applications to extremities, and hot poultices to the abdomen.

A few moments before he expired (which was in less than an hour after I entered the room), he was raised to the sitting posture, and on being laid down gasped a few times. I quickly placed a piece of paper saturated with spirits

of turpentine over the region of the heart, and swept across it the flame of a candle—but that heart had throbbed its last. Here was death by asthenia. Neither coma nor delirium had at any time existed. No vomiting or purging while I was present.

As we rode from the house speculating as to the cause of death in this case, and unable to arrive at a satisfactory solution of the question, it was suggested that a post-mortem examination for our own satisfaction should be proposed to the family, which the doctor promised to make next morning. He did so to Mrs. Simpson, who, after manifesting what was deemed a very natural reluctance, consented. She however subsequently declined permitting it, moved apparently by the repulsive feeling excited in the mind of a near female relative. During the day, suspicions of foul play were rife in the community, and a coroner's jury was summoned to inquire into the facts of the case.

On the morning of the 10th, James T. Gilliam, M. D., William P. Mallett, M. D., James A. McRae, M. D., and myself, were requested to appear before the jury of inquest and institute a post-mortem examination.

Autopsy thirty-eight hours after death.

Nothing peculiar in the appearance of the body. On opening the thoracic and abdominal cavities, a notable degree of preservation and entire absence of cadaveric odour were remarked.

Head. Not examined.

Thorax. Lungs apparently healthy. Right adherent to costal pleura by a band evidently of non-recent formation. Left collapsed. Heart removed, subsequently minutely examined; no evidence of disease, however, could be discovered.

Abdomen. The stomach, duodenum, and some thirty inches of jejunum, showed very decided marks of inflammation. Larger intestines remarkably contracted and pale. Liver, spleen, and kidneys examined superficially, in situ, discovered no abnormal appearance. Bladder contracted and empty. A ligature was tied above the cardiac orifice and another at the point on the intestinal tube, where the diseased appearance ceased and the parts included removed.

Some hours subsequently, the stomach was laid open, and found to contain thirty to forty ounces of reddish-brown bloody-looking fluid with some semi-solid matters. Its inner aspect presented marks of a high degree of inflammation. Numerous erosions of the villous coat varying in size (the largest situated near the cardiac opening must have measured seven or eight lines in length by three to five in breadth) were revealed, in and around which chiefly were patches of white agglutinated particles. A less intense, though very marked redness pervaded that portion of the intestinal canal which had been removed in which no erosions or ulcerations were detected.

A portion of the fluid contents of the stomach, which had been received in a clean vessel, was put into a dish over the fire and evaporated very nearly to dryness. With distilled water, the residuum introduced into a clear Florence

flask was boiled for half an hour and then filtered through paper. Tests were prepared by dissolving sulphate of copper and nitrate of silver respectively, and adding to each solution a solution of ammonia till a precipitate was thrown down and then nearly re-dissolved. To a portion of this filtered liquid in a clean glass a few drops of the ammonio-nitrate of silver test were added, resulting quickly in a light yellow precipitate, which afterwards changed to a brownish colour. To another portion in a separate clean glass, the ammonio-sulphate of copper test being added, produced a green-coloured precipitate—apple green. With another portion we tried Reinsch's test. After adding to it in a tube a few drops of hydrochloric acid—which we had reason to believe was chemically pure—a few pieces of bright copper were dropped in, and the liquid boiled for a few minutes till an iron gray coating was deposited on the copper. The metal was removed, washed and dried, and then placed in another (short) tube and strong heat applied, resulting, however, in no distinct sublimation. With a known solution of arsenic, the copper test was tried with a result agreeing precisely with that just named. A decoction of beef with bright copper was subjected to the same process, but no perceptible change occurred in the metal. The two liquid tests were applied to a known solution of arsenic, and gave results precisely similar to those noted as occurring on their addition to the suspected liquid. Some of the white particles from the stomach, placed on a bit of charcoal, ignited by a blowpipe, gave off a vapour in which the garlic odour was recognized.

It was here suggested that more confidence in the results of our investigations might obtain on the part of the community, if the Reverend Doctor Colton, who was favourably known here as a lecturer and practical chemist, were associated with us. He was accordingly invited, and joined us on the succeeding day.

Second series. Conducted by Mr. Colton. After using the two liquid tests before prepared, with results corresponding with those previously obtained by ourselves, he alkalized two drachms of the suspected liquid with three grains carb. potass., and added two drachms of a solution of sulph. copper (two to five grs.), causing a grass-green precipitate. Water charged with sulphuretted hydrogen gas was added to some of the suspected liquid, producing a yellow colour, which resulted after some hours in a sulphur yellow precipitate. A portion of the green precipitate (suspected arsenite of copper), after being dried on a filter, was put into a tube—similar to that described as Clark's, save that the bulb was relatively larger and stem narrower—with charcoal, and subjected to heat with a spirit-lamp. A ring of iron gray colour and metallic lustre formed in the neck of the tube, to which heat being applied minute distinct crystals sublimed on the cooler part of the stem.* Correlative experiments of the liquid and reduction tests with known arsenic

* Dr. Colton, in his evidence before the court, did not speak of this ring as the reduced metal, but testified to the crystals. The text here is from *our* notes. His were not

gave results corresponding respectively with those just described. Some of the green precipitate (suspected) put into a platina spoon with charcoal under blowpipe heat exhaled the garlic odour, distinctly marked—as also did some of the white particles picked from the stomach treated in the same way.

From these facts, observations, and experiments, we deduced the opinion—and reported to the jury—that Alexander C. Simpson had died from the effects of an irritant poison, and that that poison was arsenic. Other testimony before them tending to inculpate the wife of the deceased, they agreed upon the verdict "that Alexander C. Simpson came to his death by poison received in his stomach, and they are inclined to think that the poison was administered by Mrs. Ann K. Simpson, the wife of the deceased."

Before the warrant issued for her apprehension could be served, she escaped and fled the country, but returned on the eighth of November, 1850, and surrendered herself to the sheriff. On Thursday the fourteenth, she was put upon her trial for murder.

Pending the interval of her return and arraignment, another series of experiments was made with some of the white particles from the stomach which had been received on bibulous paper carefully folded up, enveloped, labelled, and put away. These experiments were conducted by Mr. Samuel J. Hinsdale, a very intelligent and accomplished practical chemist of this place, who was absent from town at the former investigations—Doctor Mallett, Doctor McRae and myself being present and assisting.

Third series. Some of the white particles were put into a tube with a flux of dried carb. potass. (two parts) and charcoal (one part), and subjected to the heat of a spirit-lamp till a well-marked ring of iron gray colour and metallic lustre, presenting on its inner face a distinctly crystalline appearance, was produced. That portion of the tube on which the crust or ring had formed was cut off by a file and placed in a larger test tube, heat applied with the spirit-lamp, and crystals in some abundance deposited on the cooler part of the tube. Distilled water was then added and boiled till the crystals were dissolved. To one portion of this solution, the ammonio-sulph: copper test was added, resulting immediately in a precipitate of greenish colour. To another portion, a few drops of the ammonio-nitr. silver test, with precipitate of light yellow resulting, which shortly changed to a brownish hue. Into a third portion sulphuretted hydrogen gas was introduced, producing quickly a sulphur-yellow colour, and, on being heated and acidulated, giving down a yellow precipitate. Mr. Hinsdale also tried Marsh's test with a satisfactory result, as I learned from him. I was not present during the whole of the experiment.

made at the time, but subsequently. He was certainly understood at the time as agreeing with us in our appreciation of it.

That this had the true characters of *the arsenical ring* confirmed by the correlative experiment with the known arsenious acid, and that in so carefully conducted an experiment as this was it was a condition necessarily precedent to the sublimation of the crystals, I respectfully submit.

Of the medical witnesses, Dr. Mallett and myself only were examined. Rev. Dr. Colton testified to the results of his experiments, corroborating our opinion.

It was in evidence that the prisoner had purchased an ounce of arsenic a few days before Simpson's death. That they did not live happily together. That she acknowledged a fondness for another man—had only married Simpson to get a home—had consulted a fortune-teller about a week before his death, by whom she was told he would not live a week, &c. It was also proved that she had prepared two glasses of syllabub, which he ate at dinner on the day on which he sickened, and at tea had given him a cup of coffee, both presented under circumstances which, being subsequently recurred to, excited suspicion—and that her conduct just after his death betrayed such destitution of proper feeling as to provoke censure.

It was charged in the bill of indictment that she had administered arsenic in the syllabub, and again in the coffee.

Although not in evidence before the court, it might have been proven* that Mr. S. complained of nausea, and vomited soon (probably within half an hour) after dinner. The trial occupied the whole of Thursday and Friday, and was continued till 4 o'clock A. M. on Saturday. After retiring from one to three hours (variously stated), the jury returned a verdict of *Not Guilty.*

Remarks.—It has been a matter of regret to me that other organs—more especially the liver, rectum, and genito-urinary organs—could not have been more particularly examined, but the circumstances and restrictions as to time under which we were placed operated to prevent it.

It was in evidence, and will here be seen, that Reinsch's test was not satisfactorily completed. When it is stated that, having broken some of our tubes, and no more suitable apparatus being immediately available, we were driven to the use of a thin ʒij vial, not longer than two and a half inches, and that our strips of copper were at least an inch long, the reason will be sufficiently obvious. It was laid aside with the purpose of taking it up again, but omitted, as the chemical evidence from other sources was deemed conclusive.

Pert counsel spoke flippantly of "inexpert doctors and chemists." Expertness in the anatomical and chemical manipulations could only have been rightly judged of by a competent observer—as a gratuitious assumption, therefore, it may pass for what it is worth. Whether or not we have betrayed a

* It is very far from my purpose here to impute blame to the counsel for the State, who, for the firmness, faithfulness, and ability exhibited in the discharge of their whole duty, richly deserved the high commendations bestowed on them by those present. It must be remembered, too, that they had but two or three days of a busy week, with other duties pressing heavily, to prepare for the trial so suddenly sprung on them. It is proper, however, to state that I was informed by a gentleman of unimpeachable veracity, that he met Simpson going from dinner on the day referred to—and probably in less than half an hour after he had eaten it—who complained to him of being sick and did vomit. This gentleman, because of his unwillingness to be called to the witness stand, avoided speaking of this fact till the testimony was closed.

want of expertness in arraying an amount and kind of testimony equivalent to irrefragable proof of the existence of and death from arsenic in this case, we prefer to submit to our peers, in the belief that they are somewhat more competent to determine the question than a Bar suddenly learned (on this point) or a Jury astutely picked.

[The medico-legal evidence in this case is entirely conclusive as to the death being produced from poisoning by arsenic. The stomach gives evidence of the action of a corrosive poison; the liquids of the stomach, although not deprived of animal matter, produce with the appropriate reagents signs characteristic of arsenious acid; the reduction test gives a metallic ring, which by the action of heat and air is converted into crystals; these crystals dissolved in water and tested afford precipitates, with proper reagents, which under these circumstances could only result from the presence of arsenic, a chain of evidence in which no links are wanting.—R. B.]

FAYETTEVILLE, N. C., *December 2d*, 1850.

ART. XIII.—*Case of Hydrophobia.* By J. WILSON, Jr., M. D.

I HAVE thought that the following case, which occurred in my practice near Holmesburg, Pa., in 1840, should be reported, not because it is expected to throw much light upon the pathology, or lead to a more successful plan of treatment, but as it adds something to our statistics of this terrific disease. I have delayed the report so long, because I thought it desirable to wait and see whether any bad consequences were to result to the other individuals bitten by the dog which inflicted the wound in this case. The following account of the symptoms and of the treatment pursued is transcribed, with but little alteration, from notes made during the progress of the disease.

Charles Baker, aged 20, sanguine temperament, small but robust, and of active habits, having been usually engaged in the laborious occupation of a farmer—came to visit his friends on (Sunday) May 24th, 1840, and amused himself in teasing a little dog—by pinching its tail and other means of annoyance—till the little enraged animal accidentally (?) caught his thumb—whether right or left could not be determined. The sport ceased, the thumb was wrapped up, and soon healed; he went about his business, and no more was thought of the matter till June 17th, two days after hydrophobic symptoms had occurred, when I received the above account.

He returned on Monday, June 15th—three weeks after the accident, said he was unwell, and felt weak, but made no more particular complaint; asked

for some water, and when it was offered to him, pushed it away, saying he could not drink it. He was offered some jelly, but could not eat it. On Tuesday, he tried to drink once in the course of the day, but the attempt created so much pain that he relinquished it.

June 16*th.* Tuesday evening.—At the time of my first visit, he was dull, stupid, and disinclined to say anything; answered questions by monosyllables, though quite rationally; said he had no pain; felt weak and uncomfortable; complained of oppression as if from a heavy weight upon his chest; respiration natural, except that he could not make a very full inspiration; eyes a little red; pulse 70, rather full, natural—attributed his disease to drinking too much iced lemonade on Sunday. There was so little appearance of disease that I should have thought it all pretence, but for the difficulty of suggesting a motive. He was offered some water, when the following phenomena ensued: Anxious respiration, quick and convulsive; a corresponding convulsive movement of the hand in which he held the cup; general trembling and anxiety; compressed nostrils. He succeeded in about half a minute in throwing it into his mouth (as if by an act of desperation) and swallowing a little; when he hurriedly lay down and composed himself. He was afterwards offered a piece of dry bread, which he ate without apparent inconvenience. I felt assured of the presence of this awful malady; and from the fatal termination of every case, of which I had either heard or read, of the utter hopelessness of the case. (Directed a teaspoonful of laudanum, to be repeated in an hour if necessary. Hydrarg. chlorid. mitis gr. xx.)

17*th.* He was tolerably quiet all night, but did not sleep; still talks rationally; thirst increased; increased dread of water; convulsive movements about the throat, with anxious respiration on the least excitement, as the opening or shutting of the door, a current of air, the admission of a little more light than usual, or the approach of a stranger to his bed; pulse not much altered; no alvine evacuation for three days. (Calomel gr. x; cambogiæ gr. j; morphiæ sulph. gr. ss. every hour till he sleeps or becomes easier. Epispastic to the nucha.) He became more quiet after the second dose of morphia. The cathartic operated well. The blister was fully raised in about five hours from the time of its application. The medicine was administered by sprinkling it upon a piece of bread.

7 *o'clock P. M.*—He swallowed about f℥i of water, with considerable exertion; took the sulphate of morphia seven times in the course of the day; it is said that he showed a disposition to bite. (Blister to be dressed with ungt. hydrargyri; morphiæ sulph. gr. j, to be sprinkled on the blistered surface; mercurial frictions; morphia to be increased gr. j every hour, watching its effects.)

18*th.* 6 *o'clock A. M.*—He was restless all night, profuse perspiration; pulse full, bounding, not very rapid; drinks better.

12 *o'clock M.*—Swallows fluid better; pulse thready; precardiac oppression excessive; some pain in the right arm, which he supposed to arise from

having been bruised by a horse (perhaps he was bitten in the right thumb). (Blister to the epigastrium; small blisters on the right thumb; calomel gr. xv. to be repeated in two hours, unless the first dose produce an evacuation.)

8 *o'clock P. M.*—He swallowed some water naturally this afternoon; appeared much more calm and comfortable; slept about half an hour between two and three o'clock this afternoon; has taken gr. xiv. sulph. of morphia since last evening. (Calomel gr. xv., to produce an evacuation.)

19*th.* Paroxysms are rather more violent; there has been no alvine evacuation since the 17th; he attempted to bite last night? appears to be perfectly harmless; swallows water as well as he did yesterday morning; is more delirious. (Continue the morphia; extr. aconiti gr. ss. every two hours; a cathartic enema.)

20*th.* He is more delirious; hardly recognizes any one; swallows tolerably well; moderate ptyalism; mercurial fetor and slight ulcerations about the roots of the teeth; pulse not so full as yesterday; skin cool and moist; no evacuation since the operation of the enema. There is no appearance of approaching dissolution. (Morphia sulph. gr. j every two hours, alternating with extract. aconiti, gr. ss; calomel, gr. x.)

Evening.—He was quite delirious—weak—pulse fluttering, occasionally intermitting. The secretion from the mouth (or fauces) was viscid and dark-coloured, having the appearance of a more consistent dark substance diffused through a pearl-coloured liquid. He propelled it to a considerable distance as he lay on his back; it sometimes passed a yard beyond the foot of his bed. There was a peculiar motion about the throat just before he discharged his sputa; somewhat like that produced by the attempt to swallow water; his features were mostly in motion; there was a peculiar motion about the mouth; risus sardonicus occasionally for a few moments at a time; eyes red and glassy; oppression of the stomach. Difficult respiration, irregular, and sometimes intermittent. He would omit to breathe for the time occupied by one, two or three respirations, and then respire rather quickly (pant) for a few minutes. He became less manageable in the course of the evening; was restrained by fastening a sheet loosely across the bed; as soon as he discovered this contrivance (three or four hours before his death), he became outrageous, and continued unmanageable till death terminated his sufferings at 3 o'clock on Sunday morning, June 21st, 1840, twenty-seven days after he was bitten, six days after the appearance of the first symptoms, and four days after he was first subjected to medical treatment.

The difficulty of swallowing liquids was a prominent symptom throughout; it was greater on Wednesday (the next morning after I first saw him) than at any other time; on Thursday afternoon he drank half a teacupful without much trouble; his thirst continued and he took more or less water every day, and occasionally without much pain.

Continued restlessness was present throughout; he slept more during the whole week before his death, except about half an hour on the 18th.

Thursday, he was mostly somewhat delirious especially during the last day, but was perfectly rational when spoken to, or when he had something to fix his attention; and what is remarkable, had not the least conception of the cause of his disease, but continued to blame the cold lemonade.

He ate nothing of any account throughout the whole course of his disease except the bread on which his medicine was administered.

He complained of no particular pain, except headache, once or twice, and a little pain in his right arm where he had been hurt by a horse. But he continually cried "Oh! oh! oh!" which, with his anxious countenance, tumbling and tossing, presented an appearance of suffering of which no description could afford any adequate conception.

The symptoms in this case seemed to differ from those of tetanus which I have seen, principally in the total absence of anything like the tonic rigidity of muscles observed in tetanus; the character of the convulsive movements, which presented more the appearance of tremors than convulsions; the greater irritability and intolerance of light; the power of any trifling exciting cause to produce a paroxysm.

There was but little susceptibility to the action of *narcotics.* Tuesday night he took two teaspoonfuls of laudanum, without any appreciable effect. On (Wednesday) 17th, he was directed gr. ss. morphiæ sulph. every hour till he became easier, which occurred soon after he took the second dose. In three hours he was as bad as ever, and began to take it again. At night the dose was doubled and continued, with the effect of producing some drowsiness and a short nap on Thursday; more ease and an ability to drink without so much trouble. The medicine was continued at this rate as nearly as could well be accomplished with attendants, who were very much afraid to trust themselves in his way; indeed, there was a difficulty of administering any medicine throughout the course of the disease with proper regularity, except when I was present to attend to the matter myself. Some extract of aconite was prescribed during the last day, but it was not administered with any degree of regularity on account of the rapidly increasing delirium. I was induced to use the large doses of sulphate of morphia in this case from having observed its beneficial effects in two cases of traumatic tetanus, which terminated favourably, in which it was used in very large doses, almost to the exclusion of other remedies, and in one of which the water dread was quite as great as in this case. If it should ever be my fortune, or misfortune, to treat another case of this disease, the salts of morphia would be liberally administered, since we are not acquainted with a more active or more certain medicine of its class. Two remissions of the disease seemed evidently to depend upon it; the aconite would probably be omitted, as the delirium increased very much soon after it was administered, and continued constantly till death terminated the case. This, however, is partly if not wholly to be attributed to the progress of the

disease and the omission of the morphia on the alternate hour. Its uncertain strength is another serious objection to the use of aconite in a disease which requires large doses and promptly administered.

Cathartics operated well, considering that there was so much laudanum administered at the same time; indeed, much better than could have been expected in a disease so seriously involving the functions of the whole nervous system. I should not much wonder if the alimentary canal were yet discovered to be the best surface for the application of our counter-irritants in this disease.

Blisters drew very promptly. One placed on the nape of the neck was fully raised in five hours from the time of its application; and another placed on the epigastrium acted quite as promptly.

He was evidently salivated on Saturday the 20th. The mercurial fetor was very evident, with slight ulcerations about the roots of the teeth. The blisters had been dressed with mercurial ointment, and frictions employed to the arms and thighs; he had likewise taken several large doses of calomel with a view to its cathartic effect.

Blood-letting was not employed in this case, although it is so universally recommended and as universally practiced, as if it is ever to do any good in these cases it should have been made to appear in some of the numerous instances in which it has been tried. I am not, however, disposed to find fault with it while I have nothing better to offer.

The dog which inflicted the wound in this case appeared more irritable than usual the day before, as appeared from his biting the cat, refusing his food, &c. He bit two individuals, a man and a boy—they were both fond of the same kind of amusement, the one on the hand, the other on the bare foot; the next day after, he bit Baker. He escaped within an hour or two afterwards, and has not been heard from since. This occurred May 25th, 1840.

Neither of the individuals bitten has as yet suffered any inconvenience except a little fright. As neither of these was alarmed till after unequivocal symptoms of the disease were present in the first case, I advised them to do nothing, that there were not more than one in twenty of those bitten by rabid animals who suffered in consequence, and that as one had already suffered, we should probably hear of nineteen others being bitten before another would suffer from the disease; that in fact their danger was inconsiderable; that I knew of no remedy likely to be of any use, except as it might tend to allay their anxiety; that they might as well go to Mrs. —— (of whom they spoke as professing to have a certain remedy), or any other old woman, and take her medicine, as they would almost certainly add two to the well-authenticated cases of the successful use of her prophylactics. This was the course pursued; the old lady assured them that they need not fear after taking her medicine: her prescriptions were faithfully attended to, and so far with perfect success. They gradually ceased to be alarmed, and in the course of a few weeks, after

the excitement in the neighbourhood had ceased, appeared to have no more anxiety about the matter. The remedy which they used appeared to be the root of the elecampane, &c., according to the formula given in *Rees's Encyclopædia.*

I hope my advice was correct, although I did not feel quite all the indifference I professed. One was bitten on the bare foot, the other on the hand among tendons and bones; nor could the precise point be indicated, thus rendering it altogether impossible to have removed the part, without amputating the foot and hand. This I suppose no prudent man would have advised, and in regard to the thousand-and-one certain remedies, the evidence is not of a nature to induce us to place reliance upon any of them. And to have talked of these things without caring to carry them into effect would merely have tended to increase the anxiety and mental depression, which are prominent symptoms of the disease, and may perhaps occasionally act as an exciting cause—at all events could do no good. I imagine that I did not much exaggerate their chance of immunity, since we only hear as a general rule from such as suffer, whilst those who are bitten and escape are only known for the most part among their own immediate acquaintances. And Mr. Hunter gives an account of twenty persons bitten by the same animal, only one of whom suffered from the disease. It must, from the above considerations, and from the rarity of the disease, be impossible to estimate with any probable degree of certainty the proportion who escape. I should certainly have given a larger estimate in this case if I had thought it would tend more powerfully to allay their anxiety.

ART. XIV.—*General Paralysis from Abscesses in the Cerebellum.* By SAMUEL CHAMBERLAINE, M. D., of Philadelphia.

A. B., æt. 40, married, ♂ thin, spare habit, was attacked suddenly with a "fit" about four weeks ago, while walking in the street. Giddiness and involuntary clonic contractions of the left arm are the chief symptoms; he did not fall; did not lose consciousness; got home of himself. On getting into bed, similar convulsive movements attacked the left leg. Dyspnœa and foaming at the mouth occurred. He has not been able to walk since, nor can he get from and to his bed without assistance.

His health has not been good since he had syphilis four years ago; but has been worse since he received a blow on the back of his head and neck, by a trunk from the top of a stage in which he was upset about two years ago.

Cups and blisters to nucha; purges and stimulating embrocations to his limbs had been prescribed and used; his headache has been relieved and his limbs have regained some power.

March 20th, 1850.—Present symptoms: His countenance has an expression of weariness rather than of pain. He lies upon his back, unable to rise, but can use both arms and legs. His movements are slow and difficult; his muscles do not obey his will promptly; his knit brow and fixed eyes show that all his energies must be concentrated upon his right arm, that he may carry his hand to mine; the left he moves more readily and more promptly. His grasp is tolerably strong in both hands; but stronger in the left. His strength quickly fails; he cannot maintain his grasp more than a few seconds; it is relaxed, but the fingers are not unclasped; it is only by directing his attention to it that he opens his fingers so as to free my hand from his.

Sensation appears to be normal. He says he feels my pinch equally in both arms, and has in both equally good perception of what he holds; he does not loose his grasp, nor require to keep his eye upon what he holds in order to retain it in his hand. The reflex power is therefore normal.

His animal heat is very soon lost; a few moments exposure of his arm out of the bed is sufficient to make it extremely cold; and this he says brings on a return of the "spasms of the arm." Yet he does not feel the cold, nor does he perceive the cold wall with his feet, which his wife sometimes finds completely chilled by it, and he not aware that they were against it; to the touch they are extremely sensitive, being *tickled* beyond his endurance by the least handling. His eyes are natural; pupils normally sensitive to light; not dilated. Tongue natural; is protruded with ease and promptness; not turned aside. Stomach rejects food frequently; a very slight exertion causes vomiting. Bowels extremely costive; were pretty regular till a month ago. Pulse extremely weak, small and very slow. Spine examined by careful pressure on each vertebra; there is no pain at any.

25th. Had a slight return of the "spasms of the arm" on yesterday. To-day he appears to be weaker; his voice is faint and weak; his mind acts slowly; he replies to me only after an interval of a minute or two; but his replies are then correct and to the point. He protrudes his tongue slowly; seems to hold it out with his teeth; his lips remain grinning, only slowly regaining the natural position. He squeezes my hand with great effort; it evidently requires him to summon all the powers of his will to squeeze it at all. His left hand possesses more power than the right, but it costs him the same effort to use it.

29th. He has vomited every day; generally soon after eating, but always when he is worse or makes any effort to move himself; sinapisms have had no effect in restraining it. Hydrocyanic acid has appeared to arrest it. He has gained some strength since the "fit" of the 24th; his mind as well as his muscles acting now promptly.

30th. His wife reports a "severe fit" last night, and frequent vomiting. He is stupid; his brows contracted; his mouth quivers in the attempt to speak, but he says nothing. Cups to his temples; strychnine gr. $\frac{1}{16}$, three

times a-day, and hydrocyanic acid to be repeated or not, according to the frequency of the vomiting.

31*st.* He exhibits more strength than I have seen in him before; he takes the tumbler and carries it to his mouth, which he was unable to do. His replies are prompt and immediate; he gives his hand quickly and carries it promptly to mine, and without the usual slow movements and unsuccessful attempts; rubs his hands together. I have not seen him use so much muscular action before. He yawns a great deal; says he feels tired. He vomited once to-day; but has retained a piece of chicken. His bowels are obstinately costive; he has had no stool for a week almost.

April 1*st.* His wife finds that he complains greatly of pain in his neck whenever she raises his head; pressure causes pain at third, fourth and fifth cervical vertebræ.

6*th.* He has taken the strychnine at very irregular intervals, often refusing it altogether; has now taken about half a grain. There has been some apparent increase of strength; he has not required the same effort (with distortion of his face) to squeeze my hand; still he cannot regulate his movements. On attempting to put a pill into his own mouth, he could neither carry his hand directly to his mouth, nor, when he had reached it, could he open his mouth and his fingers at the same time; he either retained the pill, or let it fall while his mouth was still closed.

Emaciation has now become extreme; his belly is retracted to the spine, and presents a hollow beneath the ribs and below the diaphragm.

Vomiting has continued every day; sometimes but once, usually three or four times a-day. The sense of fatigue is nearly constant with him; yawning frequent. The only pain complained of is in his scalp—a feeling of soreness rather than of pain; he makes his wife rub it constantly with spts. camphor.

His mind has wandered a little. His wife has often reported that he "talks strangely" to her and "is very irritable." His replies to me have been correct, but he requires time to collect his thoughts; sometimes says he is "trying to remember," when I repeat my question. Sometimes he has started with surprise at seeing me, and appeared to forget me for the moment.

11*th.* Has continued in much the same state. Irritability increases. Soreness in the scalp is more constant. Pulse grows weaker. Power of grasp less and less. He has passed his urine under him, and also one or two stools. Skin over the sacrum is becoming hard and sore. Pain over the cervical vertebræ is greater; he cries out if I press strongly there.

13*th.* I found his heart acting with violent impulse, and great rapidity; its sounds normal; pulse unusually strong; a dull, heavy pain at heart was all he complained of.

23*d.* I found him with his head thrown back; his mouth fast closed; and his eyes staring wildly. He was alone, and may have just been suffering from one of his "fits," no one knowing it. His intellect was more dull than I had

yet found; he would not speak, though he understood me, putting out his tongue and grasping my hand when told.

26*th*. His mind is clear again; he talks readily, and to the purpose; but soon begins to ramble, talking to persons who are not present; he appears to be very sensitive to every noise about him, on the street or in the house; his eyes not more than naturally sensitive to the light. His left side is now as completely paralyzed as the right. Sloughs have formed on the hip and sacrum. He passes his urine beneath, but from inattention or paralysis of the bladder, for I saw him pass it in full stream.

To-day I galvanized him. He has for several days refused the strychnine, and indeed all medicine. He never took the strychnine regularly.

May 6*th*. Galvanism has been applied several times with intervals of a day, according to his strength. At first there was some appearance of improvement, shown by more energy of will and more prompt and ready movements, and by retaining his food for longer times.

Mild delirium has continued nearly constant; he talking continually to persons who were not present, and of things long gone by or that had never happened; and he raved so much about the galvanism that his wife wished it discontinued, thinking it caused the delirium.

11*th*. Died. Has continued to grow weaker since 6th, vomiting almost constantly. Brandy and water has been his only drink. Food of every sort he has refused for several days. Some intelligence and some power of motion remained this morning. He recognized his wife, squeezing her hand, and raised his head when his daughter's name was called. About noon he died.

Post-mort. examination forty-four hours after death.—Body emaciated to the last degree.

Brain.—Dura mater healthy, natural, pale; not adherent to cranium; arachnoid presented a few isolated spots of a slightly milky hue on the upper surface. Pia mater presented a moderate venous congestion. Substance of brain dry, very bloodless, of normal consistence; ventricles free of fluid; the plexus choroides remarkably pale.

Cerebellum.—Numerous encysted abscesses containing pure green pus were imbedded in the substance of the cerebellum, on both sides at the superior surface; at the base they were more numerous on the left side; the right containing but two or three, and these smaller; their size from that of a large marble to a pea; their walls a line perhaps in thickness, and sufficiently firm to permit the turning them readily out of the substance of the cerebellum. One or two near the surface were seen protruding before they were opened by the knife. The central lobe was not involved, nor did it appear to have been affected by them, neither by their pressure nor by their previous disease. There was diffused redness (minute arterial injection) on the surface of the convolutions, in a limited space on the left side, near the larger abscesses. Elsewhere the cerebellum appeared healthy to the eye.

Medulla Oblongata.—The gray matter was very pale, and not readily distinguished from the medullary; as was the case also with that of the spinal marrow; its substance appeared softer than natural; was readily wiped away with the sponge, breaking down very easily; there was congestion of the vertebral veins, probably cadaveric, as the blood was readily pressed out of them. Also a yellowish gelatinous substance in the loose cellular tissue between the dura mater and the med. spinalis, and the vertebral canal, of more than normal amount.

The *Spinal Canal* contained a small quantity of yellow serum.

Remarks.—The symptoms in connection with the post-mortem appearances agree perfectly with the received physiology of the cerebellum. Dr. Carpenter considers it "probable that the lobes are specially connected with the regulation and co-ordination of movements, whilst the vermiform processes are the parts connected with the sexual function." In this case, the seat of the abscesses was the lateral lobes of the cerebellum, and the most prominent symptom was the entire want of power to regulate his movements; as in the attempt to carry a pill to his own mouth. On another occasion, he attempted to give me his hand; he raised his arm and advanced it towards me, but the fingers remained extended perfectly straight and rigid, and would not grasp mine: after several attempts, he remarked, "They won't come down," and finally he endeavoured to seize and bend them himself with the other hand.

In addition to this, his movements were always slow and difficult; always slower than his will, and always required his attention to be fixed on each muscle (or set of muscles) before he could move at all. Both strychnine and galvanism (especially the former) appear to have recalled the power of combining his movements and to have increased the energy and the promptness of them. Their effects however were soon lost; the strychnine he neglected, the galvanism he quickly became accustomed to.

The central lobe was unaffected, and accordingly there was no evidence that the sexual instinct was either increased or diminished. Nor were his habits, of which he spoke freely to me, such as to make it probable that there was previous disturbance of that instinct subsequent to the injury at the back of his head: nor before this were they such as to have been a co-operating cause.

The vomiting and intense soreness of the scalp are probably due to pressure by these abscesses upon the medulla oblongata and upon the origin of nerves distributed upon the scalp.

To the vomiting and the protracted starvation in consequence of it are due the extreme emaciation and the delirium; the mild character of which, and its gradual increase, together with the normal condition of the brain, show that its cause was the want of nourishment. He seems really to have died of starvation, for there was nothing in the condition of his organs (so far as examined) to prevent his living till the abscesses were absorbed, could food have

been supplied to him and retained; he seldom suffered from hunger, if ever, indeed; and usually refused his food when brought him, although he might have just asked for it. A feeling of extreme fatigue was the most he complained of, caused, doubtless, by the condition of his nerve centres (spinal marrow), which suffered by the pressure of the abscesses, and in common with his general system by the want of nourishment and by the long disease of its functions.

ART. XV.—*On the Treatment of Permanent Pseudarthrosis by an Apparatus which permits the use of the Limb and obviates the necessity of Amputation.* By HENRY H. SMITH, M. D., Surgeon to the St. Joseph's Hospital, Philadelphia.

FEW operations in surgery are more strikingly characteristic of the defects of the science than those of amputation of a limb on account of the existence of false joint.

When nature, under peculiar circumstances, shows herself unable to consolidate a broken bone, we readily recognize the great indebtedness of surgery to her powerful aid; but when in consequence of this a surgeon proposes to amputate a limb that is perfect except in the flexibility of the bone at the seat of injury, we cannot but notice the imperfect character of his art.

Under the most hopeless circumstances of ununited fracture, it should therefore be borne in mind that the restoration of the integrity of the lever upon which the muscles act will enable them to perform their function, and thus save the patient from becoming a cripple for life.

A simple means of affording the necessary support to a bone under these circumstances will be found in this and a previous paper. These means are but a slight modification of those which have been long employed in the bending of bones, resulting from mollities, &c., but their application to cases of pseudarthrosis generally will also be found to prove most valuable.

In No. XXIX., New Series of this Journal (Jan. 1848), I reported a case of false joint in the leg, in which the patient, after vainly suffering the application of caustic to the ends of the bones and subsequently their resection, was enabled to walk without difficulty by means of the splint there described. Suggestions were also offered as to the utility of somewhat similar means in the case of false joints in the upper extremity. I, however, feared at that time that pseudarthrosis in the femur would prove an exception to the general utility of the means recommended. Such I am now happy to say has not been the case in the instance in which it has been tried, and it is now reported in

the hope that surgeons may be induced to try it before resorting to amputation in cases where possibly a useful limb may be gained.

Since the report of Jan. 1848, the patient, Mrs. K., has constantly worn the splint, and found it to answer better than several others, which were tried in the hope of improving on the original. The main part of her weight (about 160 lbs.) being sustained by the straps at the knee, and the fracture strengthened by pressure all round it, she is now (Dec. 1850), although labouring under a false joint in both bones of the leg to a degree which permits considerable flexion and extension directly in the middle of the tibia, able to walk without attracting the attention of ordinary observers.

The success attending the use of the splints in another instance of a similar injury has also been most gratifying. This patient, Mr. S., weighing near 200 lbs., received a fracture of the leg in December 1849, for which he was skilfully treated by a distinguished practitioner of this city. Union, however, did not occur, and after labouring under false joint for three months, was directed to Mr. Rohrer (the cutler who manufactured my first splint) for an apparatus.

Being furnished with one similar to that of Mrs. K., he was soon enabled to walk, and, under the judicious treatment of his physician, such a degree of inflammation was induced in the bone as resulted in its consolidation. Although he can now bear his weight upon the limb, he yet wears the splints to guard against accidents.

Impressed with the results of these cases, I embraced the opportunity presented to me last April of testing the applicability of similar means to the treatment of pseudarthrosis in the femur, modifying them only so far as the structure concerned rendered necessary.

The Hon. Judge G——, of Ohio, received an oblique fracture a little above the middle of his right femur in the winter of 1848, which, though treated in the usual manner, never united. In April, 1850, he therefore determined to visit this city, and placed himself in the hands of Dr. Wm. E. Horner, of the University of Pennsylvania, with whom I saw him. He was then upwards of sixty-three years of age; in rather feeble health; with an oblique ununited fracture, which permitted free motion of the middle of the shaft of the femur in every direction, and was incapable of sustaining his weight, being unable to move without crutches.

After fully considering the peculiar circumstances of this case, it was decided not to recommend an operation, but rather to try what the splints might be able to do towards relieving him. Accordingly, on explaining to Mr. Rohrer my views of the case, and the probable modification of the apparatus that would be required in this patient, I had the satisfaction of finding that he could accomplish it. After some trifling alterations which experience demanded, the Judge found himself once more able to walk with great freedom, very much to his satisfaction, as he had been assured by several surgeons whom he consulted that amputation would be his only resort.

The splints are shown in the figures.

Fig. 1.

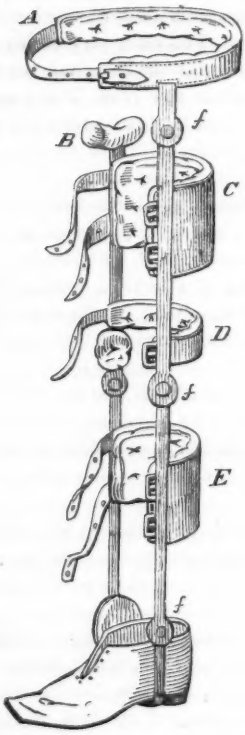


Fig. 3.

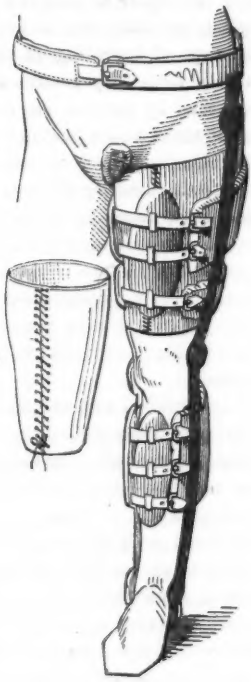


Fig. 2.

Fig. 1 exhibits a three-quarter view of the apparatus.

A.—A band and belt to go round the pelvis.

B.—A padded crutch-head to support the weight of the body upon the perineum, as in Boyer's splints for fracture of the femur. As he gained confidence, this piece was subsequently removed.

C.—A support to the back of the thigh. The splint which afforded the support to the front of the fracture is seen on the thigh in fig. 3; it was formed of sheet-iron, moulded to the limb and well padded.

D.—Another support just above the condyles. The front splint, fig. 3, came down in front as low as this piece.

E.—A support to the back of the leg, where the broad straps in front were buckled. This kept the leg directly in the line of the femur.

fff were joints in the side steel splints, to favour the motion at the

ankle, knee, and hip joint. They were so arranged by a "half-stop" as to prevent sudden or excessive flexion.

Fig. 2 is a buckskin thigh piece, which laced up in front and extended from the groin to the knee, to protect the skin from chafing.

Fig. 3 shows a three-quarter view of the apparatus as applied with this. The Judge is now able to walk without his stick, though generally using it, from the force of habit; and in a recent message to Mr. Rohrer, in connection with some slight repairs, declared himself unwilling to part with it for the best farm in Ohio.

To the mechanical skill of Mr. Rohrer, he is certainly indebted for the lightness and strength of his semi-artificial limb.

ART. XVI.—*Hydrocephalus cured by Hydriodate of Potass.* By J. ST. JULIEN GUERARD, M. D., of Beaufort, S. C.

IN the whole list of "Opprobria Medicorum," there is no disease that holds a more conspicuous place than hydrocephalus; none that has more completely put to naught the well-directed skill of the physician. I have therefore deemed it highly imperative, that whatever is calculated to throw light on this affection, or which tends to elucidate its pathology or treatment, should be made known to the profession.

As my aim is to be practical and useful, I shall not enter into the *polemics* of the subject, but will content myself simply with detailing the treatment and results of a case, which occurred lately in the practice of my father, Dr. J. D. Guerard, of this place. On the 8th of February last, Mr. J. S. Perry sent in from his plantation to the doctor a coloured infant for medical treatment. The mother stated that her child was six weeks old, and had suffered severely during the month from a cold, which resulted in an enlargement of the head. On examination, the head was found a third larger than natural, and the sutures were all widely patulous; the fissure commencing at the root of the nose, and extending up the medium line of the os frontis to the anterior fontanelle, being an inch across. The fontanelle itself was capacious enough for three fingers. The coronal and sagittal sutures were also widely extended. The scalp covering these broad fissures was puffed and elastic to the touch, and indicated the presence of much fluid beneath. Dilatation of the pupils and strabismus, together with subsultus tendium, and sudden screaming and tossing of the arms upwards, plainly denoting the nature of the little patient's affection. Also, the bowels were costive, and vomiting frequently occurred. This congeries of symptoms, so clearly evincing a case of hydrocephalus, determined my father at once to try the efficacy of the hydriodate of potass; cases

of the undoubted disease having been recorded as cured by this potent drug in your valuable Journal. He accordingly ordered an ointment consisting of 25 grs. hyd. of potass to the ounce of lard, to be well rubbed over the whole head, twice in twenty-four hours. This to be gradually increased up to 40 grs. to the ounce. At the same time, a solution to be made by dissolving 20 grs. of the hydriodate in ℥i of rain-water, and of this 10 drops to be given morning and evening. This treatment was continued up to the 3d March, and no melioration of the disease occurring, blisters were now ordered to be applied to the cranium; first on one entire half and then on the other, and so alternating that one side of the head or the other was always under the influence of the epispastic. A couple of grains of the blue mass was likewise ordered twice daily, which kept the bowels in a tolerably active state. Very shortly after, symptoms of anasarca supervening, the unguent was directed to be rubbed over the thorax and abdomen. And now appeared the crisis of the case, for *a vesicular eruption broke forth over the entire body*, the vesicles bursting and discharging pure lymph. From this critical discharge, the convalescence of the patient commenced, and the remedies being still continued, all the alarming symptoms gradually disappeared. About the middle of July, all remedial measures were discontinued, the case being considered as cured. The child was brought to town and examined two weeks since, and although there was still some obliquity of vision, I thought I had never seen a healthier and more sprightly looking infant. The sutures were almost all filled up with ossific matter, except the broad space between the two portions of the os frontis, and also the triangular space of the anterior fontanelle, but in both of these there is a hard, bony deposit on the dura mater below, and the cavity will soon be filled up, although not to a level with the superficies of the cranium. The forehead will always be marked with a deep sulcus in the middle. But the absence of all serous effusion from the head, or other parts of the system, and all symptoms denoting pressure on the brain, show that the hydrocephalic affection has been entirely removed, and the cure of the little patient made certain.

In conclusion, I would remark that the results of this case accord with those of other instances of hydrocephalus that have been treated by similar means, and that together they tend to show the complete curability of this dreadful malady even in its worst phases by the hydriodate of potass. Doubtless its peculiar virtue depends upon its excitant action on the absorbent system, assisted probably in this case by the alterative powers of the blue mass that was also given. As a salutary deobstruent, and powerful *discusser* of all hydropic and other morbid products, I regard iodine and its preparations as vastly superior to mercury, and as being one of the most potent weapons ever furnished by chemistry for the furtherance of our endless conflict with suffering, disease and death.

REVIEWS.

ART. XVII.—*The Transactions of the American Medical Association.* Instituted 1847. Vol. III. Philadelphia, 1850. 8vo. pp. 499.

THE present volume comprises the transactions of the Association at its third annual session, held in the city of Cincinnati, May 1850.

It is not our intention to enter into an examination of the influence which the acts of the Association since its organization have had, or which its future proceedings, based upon the general principles thus far recognized by its members, are calculated to produce upon the medical profession in the United States, excepting so far as this question is involved in the reports contained in the volume before us.

Convinced that the deliberations of an annual congress composed of delegates from all the branches of our profession, and from every section of the country, cannot fail to exert a favourable influence upon the character and condition of that profession, and having the more confidence in the beneficial working of the National Association in consequence of the firmness it has thus far exhibited in its efforts to elevate the standard of medical education in our midst, we have little fear of the judgment which the future shall render in regard to it.

The present volume of Transactions contains eleven reports from the standing and special committees appointed at the preceding session. But five of these reports are from committees charged with the duty of suggesting measures for carrying out the leading objects of the Association; the remaining six, though in themselves interesting and valuable, have at the best but a very indirect and remote relation to those objects, or to the means for their promotion.

The first report in order is that of the *Committee on Medical Sciences.* This is made up of a brief statement of "those facts illustrating the progress of Medical Science in the departments assigned to this committee, which have been gleaned from the medical journals and other publications of the preceding year, and from numerous correspondents. These departments are Anatomy, Physiology, General Pathology and Therapeutics, with other branches of Natural Science, bearing directly on the condition and progress of medical knowledge in America."

This report displays considerable industry on the part of the gentleman by whom it was drawn up. It presents a very fair and impartial exposition of the more recent contributions made by American physicians to medical knowledge. These, though they may not equal in number and importance the contributions made during the same period by the physicians of Europe, speak favourably, nevertheless, for the zeal with which the field of observation occupied by the former is attempted to be cultivated, and exhibits the useful and often interesting results which may be developed amid the absorbing duties of a profession, which, in this country, leaves to the practitioner but small time for a prolonged series of investigations, or for the record of these when they are made, in a form adapted for publication.

The exposition made by the committee is unaccompanied by any remark or comment. Their report being addressed to a body of physicians, they did not, we presume, consider it necessary to investigate the absolute or relative

value of the several facts and observations comprised in it, and yet it must be evident that such an investigation would have greatly increased the interest and value of the report.

The second report is that of the *Committee on Practical Medicine and Epidemics.* This is a very valuable document. Not only do its remarks on the several topics upon which it touches bear the impress of a sound practical judgment, but the positive information which it communicates, though limited to a very few of the topics embraced within the duties imposed upon the committee, is clear and definite, and sustained by the best statistical facts within its reach.

Upon the subject of practical medicine, the materials furnished by the report are extremely meagre; this results as well perhaps from the few improvements in the management of individual diseases that have been introduced during the past year by the physicians of this country, as from the committee having restricted their notice to the more useful novelties in medical practice derived exclusively from American sources.

Excepting so far as the subject of special therapeutics is embraced in the consideration of the leading epidemic of the past year, we find in the report nothing under this head of any particular interest.

The report is mainly occupied with a history of the epidemic cholera as it occurred in the United States during the year 1849. The most interesting portion of which history is that which relates to the facts connected with the introduction of the disease into New York and New Orleans, and its subsequent outbreak and spread in those cities.

That in the latter part of the year 1848, the cholera was introduced into New York by the crew of a vessel from Havre, there can be no reasonable doubt; of the fact of its introduction into New Orleans by the crew of a vessel from the same port there is not, however, the same conclusive evidence. Already had the premonitions of a visitation of the epidemic been experienced in the latter place, while the condition of the city in a hygienic point of view, and the state of the weather, were precisely such as would favor an outbreak of the disease. The rapid spread of the disease in New Orleans is likewise indicative rather of an epidemic cause than of propagation from one or two foci of infection.

That the cholera is not contagious in the proper acceptation of the term is proved very clearly in the present report by a close examination of the manner in which the disease commenced and spread in Philadelphia. An outline map of the city and districts is given, showing the date and place of the occurrence of the first twenty-three cases of cholera reported to the Board of Health.

"Letters," says the report, "from the twenty-one physicians to whose care these cases were entrusted, authenticate in the strongest manner the details of them. Two cases occurred on the 30th May at the upper verge of Philadelphia, in the Richmond district. On the same day, another presented itself in the district of Southwark, on the lower verge of Philadelphia, at the distance of three and a quarter miles. On the following day, a patient was seized within the city proper, a quarter of a mile from the third case. Three-quarters of a mile from this occurred another on the 1st of June, and a sixth on the same day near the Schuylkill, at least one and a half miles from any of the preceding ones. The seventh case was near the river Delaware, the eighth in Spring Garden, the ninth in the City near its southern border, and the tenth two miles and seven-eighths from the ninth, at the Point House, entirely below the limits of the City and Liberties. On the 11th of June occurred the eleventh case, in Richmond, near to the spot where happened the first two cases, twelve days before, and five miles and one-eighth from the tenth case.

"In seventeen days from and after the first case, three had happened in Rich-

mond, three in Kensington, two in Spring Garden, ten in the City, four in Southwark, and one in Moyamensing. Of these, with the exception of the first two, none were within a square of each other, although every district, but those of the Northern Liberties and Penn, had at least one case.

"A few of the gentlemen to whom notes were sent failed to answer them. Two had cases which had been in the immediate vicinity of other cases, but fifteen replied decidedly that there was no reason to believe that their patients had been exposed to any infected place, or to any case or cases of cholera. One case, the eleventh, which occurred on the twelfth day of the epidemic visitation, had recently visited the infected city of New York."

The general conclusion of the Committee is, that

"Cholera is portable but not contagious, that it is dependent for its accidental power rather upon density of population and personal uncleanliness than upon any other causes. An atmosphere highly charged with emanations from living bodies seems to be the chief stimulant of the choleric influence. Next to this, the most powerful auxiliaries seem to be habits, passions, and food of a depressing character; whilst the influences of every kind which usually determine the blood to the intestinal surface give to the diseased agency its most dangerous direction."

That cholera and many other diseases not of a contagious character may be introduced into the midst of a community by the arrival of persons affected by them, or even of persons from places where those diseases are prevailing epidemically who are not actually labouring under them at the time of their arrival, is established by too strong a body of evidence to permit its being denied. In what manner such diseases become in this manner *portable* is perhaps inexplicable.

Notwithstanding it is true that cholera prevails usually to the greatest extent, and produces the greatest amount of mortality in those locations which are deficient in ventilation and cleanliness, and overcrowded with a debased, intemperate, illy lodged, and badly fed and clothed population, yet it is a curious fact that during the epidemic of 1849, in some of the worst localities in one of the southern districts, where everything appeared the most favourable to an outbreak of the disease, very few cases occurred. It was, nevertheless, in only those localities of the city and surrounding districts where the hygienic influences were unfavourable that the cholera occurred to any extent either in 1832 or 1849.

The following remarks in relation to the treatment of cholera have an important practical bearing:—

"So far as the committee have been able to collect the sentiments of physicians much conversant with the subject of the treatment of cholera, they believe that the internal sedatives and astringents, in moderate and frequent doses, prompt venesection, and external stimuli, including heat and cold, as the case may require, and salines, constitute the most successful practice in this formidable disorder. One of the most common errors consists in the want of patience, and in the restless change of the mode of remediation, so that a medicine is not permitted to make a permanent impression before a new article is substituted. It is chiefly for this reason that empirical remedies have so often acquired a reputation superior to that of a more rational practice which is not so steadily adhered to."

There is not much of novelty in the following remarks; still they are interesting as confirmatory of a fact which has been noticed in every place where the cholera has made its appearance.

"The cause of cholera is usually almost universally admitted to be a poison, the introduction of which into the body disturbs the nervous system in nearly all the people who live within its scope. In many, this disturbance is mani-

fested only by lassitude, or slight cramp, or slighter indigestions. In others, it expresses itself by anorexia, borborygmus, diarrhœa, or even dysentery. In a small part of the population it manifests its power by the production of watery passages, aqueous emesis, a rapid decline of the force of circulation and of the function of heat, and by violent and painful cramps of certain muscles.

"Are all those one and the same disease? Assuredly, if produced by a single specific cause! That the causes of cholera produce other and even fatal diseases, which are not usually esteemed as cholera, may be proved in various ways. Perhaps the strongest is the fact that in all places where cholera prevails, an attack of it is preceded by a diarrhœa of greater or less duration, except when, as at the New York quarantine station, it was brought from sea suddenly. Even in such cases, a diarrhœa immediately follows the first cases of cholera, and marks nearly all the subsequent ones.

"Another proof of this important truth is not only the coincident prevalence of bowel complaints which do not terminate in cholera, but their singular tendency to a fatal issue without presenting any acknowledged cholera symptoms.

"A reference to the statistics of such of the Philadelphia cholera hospitals as presented detailed reports, will show the prevalence of other bowel complaints. Thus, in the Cherry Street Hospital, while twenty-seven were affected by cholera, eleven had dysentery, and twenty-four diarrhœa, and that, too, in a hospital devoted to the use of cholera patients.

"In New York, in 1848, when no cholera existed there, 492 persons died of cholera infantum, 27 of cholera morbus, 227 of diarrhœa, 518 of dysentery, and 291 of inflammation of the stomach and bowels, making for the five warm months a grand total of 1,355. For the same period of 1849, when cholera prevailed, there died of cholera infantum 901, of cholera morbus 226, of diarrhœa 615, of dysentery 949, and of inflammation of the stomach and bowels 344, making a grand total of 3,035; although cholera asphyxia removed from the possibility of death from such causes 5,017 cases of persons who, from bad habits, exposure, and want, would have been very liable to such disorders.

"The valuable paper of Dr. McPheeters, on the late epidemic at St. Louis, speaks, in several places, of the general prevalence of abdominal affections, and of the irresistible tendency of death by affections apparently slight, and in ordinary times easily managed, and concludes a paragraph with the remark that 'this enormous mortality from other diseases is, in a great measure, to be attributed to the baneful influence of the epidemic.'"

To the Report of the Committee are appended two communications, the one from Dr. Pancoast, of Philadelphia, on the treatment of a particular form of aphonia by the inhalation of a stimulating vapour, the other by Dr. Joseph Reynolds, of Gloucester, giving a very able account of the typhoid fever and dysentery, as they have appeared in the epidemic form, during the last four seasons, on Cape Ann, Mass.

The form of aphonia alluded to in the paper of Dr. Pancoast is one of not unfrequent occurrence, subsequent to an ordinary attack of catarrh, and is unconnected with any perceptible organic lesion in the pulmonary apparatus.

"The voice is reduced to a faint, hoarse whisper, distinguishable only at the distance of a few feet, and a continued attempt to talk, though it gives no pain, becomes quickly attended with a feeling of fatigue, as though there was some obstruction to the passage of air through the larynx. In breathing, surely, there is little or no difficulty in these cases, as the individuals are capable of undergoing considerable exertion without very unusual signs of fatigue."

Dr. Pancoast supposes the aphonia in these cases to depend upon a paralyzed condition of the muscles of the larynx, whose business it is to dilate the rima glottidis during the act of articulation.

Dr. P. relates two cases of this form of aphonia, in which the voice was restored by the inhalation of chlorine. He presumes the chlorine to act merely as a local stimulant, and that to direct any other exciting vapors would effect similar results.

The inhaling apparatus employed by Dr. P. was the ordinary tubulated glass retort, with a glass funnel having some filtering papers at the bottom. In the bowl of the retort was placed a solution of the chloride of soda or lime, and in the glass funnel a portion of muriatic acid largely diluted with water. As the dilute acid falls drop by drop into the bowl of the retort, chlorine will be gradually liberated, and may be breathed from the end of the instrument. In Dr. P.'s cases the inhalation was continued for some minutes, and repeated two or three times a-day, according to the degree of irritation it produced in the throat and larynx.

The report which follows is that on *Medical Education.* This report must be viewed as exposing the sentiments, not of the committee to whom the consideration of the subject of medical education was submitted, but those of the chairman alone. It does not appear that the report was seen by either of the other members of the committee previously to its presentation, and so far as we can judge from the proceedings of the association, the views embodied in it are not those in which the members of that body could concur.

All the views presented in that portion of the report which relates to the preliminary education of the medical student are unquestionably correct. The schools are not *alone* to blame that students are admitted by them, and, after the required attendance upon the prescribed courses of professional instruction, are graduated as doctors in medicine, whose preliminary education, and physical, and moral, and intellectual qualifications are not adapted to render them competent to the faithful and successful practice of the healing art, or to become useful and distinguished members of the medical profession. Physicians should not receive into their offices as students illiterate and incompetent persons. Parents, as well as those desirous of entering upon the study of medicine, to use the appropriate language of the report of Dr. Roby,

"Should be told, frankly and plainly, by those who have the best right and opportunity to do it, that nothing can compensate for lack of physical, intellectual, and moral fitness for his vocation; that his position in a profession for which he has none of the essential pre-requisites must ever be a false one, and that he has no just claim to its honours and immunities, without faithful, continued, industrious application."

If by the private medical preceptor the admission to the study of medicine of any incompetent persons were discouraged, the medical schools could then more properly interpose and effectually aid this movement on the part of the profession, by refusing to matriculate such as could not produce sufficient evidence of a proper preliminary preparation for the successful acquisition and practice of the healing art. The effort to elevate to the proper grade the character of the preliminary preparation requisite for the student of medicine must be made, not by the schools alone, but by the profession in conjunction with the schools. Without the constant and effectual aid of those who are engaged in fitting students for attendance upon the courses of instruction embraced in the lectures and demonstrations of the medical schools, it will be in vain for these latter to attempt by any regulation of their own to effect this important object.

From the remaining portion of the report, we should infer that Dr. Roby has as far misunderstood the real object of the previous recommendations of the association in regard to the increase of the lecture term and the augmentation of the branches taught in our medical schools, as he has overrated the competency of these, with their present courses of instruction, to impart to their graduates the desirable amount of instruction to fit them properly for the important and responsible duties of their profession.

Far be it from us to disparage our medical schools; we know full well the

talents and industry of very many of those who fill with honour to themselves and advantage to the student their professorial chairs; but the question is not whether the limited number of branches embraced in our medical courses of instruction are well taught, but whether, on the one hand, these branches are sufficient to constitute an adequate medical education; and, on the other, whether the time now occupied by the student in the acquisition of medical knowledge is sufficient fully to indoctrinate him in those principles and precepts upon a perfect familiarity with which his future usefulness as a physician so entirely depends.

The question is not whether the recommendations of the Association having for their object the elevation of the standard of medical education in this country have or have not as yet been adopted in good faith by the different schools; but are these recommendations adapted to effect their object? It has been contended, we are aware, that in two courses of lectures of four months each, in which several important branches are but slightly noticed, or entirely omitted, all the knowledge that can be imparted by this method of instruction may be acquired by the student; that everything beyond this is not only unnecessary but injurious. Very few, we apprehend, will be willing to adopt this opinion; many, however, of those who admit that a prolonged and extended course of study would be desirable, could students generally be induced to pursue it, are still opposed to the recommendations of the Association. With Dr. Roby, they base their opposition to those recommendations upon the plea "that in this country admission to all the liberal professions must always remain comparatively easy." That all our institutions "must conciliate the public good will, upon which they are dependent for existence and patronage, by a *liberal* exercise of their powers and privileges;" which, in other words, means by placing the requirements for admission into the liberal profession so low that the door may be laid open to all, with as little expenditure as possible of time, money, and industry, and with proportionably as small an amount of qualification. That it is not practicable or desirable to adopt in American schools that "exact training, rigid requirements, and restraining discipline, considered essential to the highest grade of intellectual education," which is claimed for some of the European schools.

Now it is very doubtful whether they who offer these pleas in opposition to the introduction of a more extended and thorough course of professional education into our medical schools, and to the adoption of a more severe test of the qualification of candidates for the doctorate, are themselves satisfied with them. It is certainly unfair to assert that an adequate number of students would not be found to matriculate in those schools, that should adopt and carry out the measures recommended by the American Medical Association, until the experiment shall be fully tested. It has been said, we are aware, that the rapid increase in the population of our country, and the wide space over which that population is spread, cause so great a demand for physicians, that they must be supplied to meet that demand with a celerity which precludes prolonged attendance upon courses of instruction and a thorough training in the principles and practice of the profession before commencing upon its active duties; or otherwise, many of the new and remote settlements will be left destitute of proper medical assistance, and be obliged to resort in case of sickness to the aid of incompetent persons or the regular empiric. The extent of the supposed demand for physicians in any portion of our country is greatly exaggerated. The emigrant disposition of our people is such as to cause the deficiency of physicians, in any community, however remote, to be very quickly supplied from their superabundance in other places. And even were

this not the case, we deny that the necessity of supplying the demand by such as are only imperfectly qualified can be received as a valid objection to elevating the standard of medical education in the United States, or to demanding higher qualifications in those who would be received as *regular members* of our profession.

It is the duty of that profession to insist that its reputation, its usefulness, and the interests of its members shall receive no detriment from the admission into its ranks of the incompetent and the unworthy. Let then the line of distinction between the properly educated and qualified, and the ignorant and incompetent physician, be distinctly drawn, and honestly maintained; and no fear need be entertained that any respectable medical school will long refuse to co-operate in the effort to elevate the character, dignity, and usefulness of the American physician, by affording him ample opportunities for the acquisition of a complete medical education, and by demanding of its graduates sufficient evidence of their having properly profited by those opportunities.

The report next in order is that of the *Committee on Medical Literature.* This report is the best written, and one of the ablest of those contained in the volume before us. It presents an interesting and judicious estimate of the general characteristics of the medical periodical literature of our country, and short notices of the leading original works by American authors, published during the preceding twelve months. These are followed by a consideration of the subject of a national medical literature; the difficulties which stand in the way of its formation; and the means which the committee deem best adapted for its promotion. Fully convinced of the general accuracy of the opinions set forth with so much force and perspicuity by the author of this report, and concurring in the correctness of most of the means recommended in it for the promotion of a medical literature of our own, many of which have indeed been advocated by us,* we must, nevertheless, be permitted to suggest a doubt as to the judiciousness and efficacy of one or two of the plans proposed. It does not appear to us that for the Association to proclaim, by a formal vote, any American medical work, reported by one of its committees, as being the most valuable that has appeared during the year, would be calculated to promote the object aimed at. In the first place, it would not be possible to select from among a number of works on different branches of medical science that which could with propriety be pronounced "the *most valuable*"—inasmuch as no correct comparison of them could be made. Again, independently of this objection, the most valuable work published during the year would at best be but an equivocal recommendation, unless a number of other works of acknowledged excellence had been published during the same period. But the most striking objection is the difficulty of the task thus assigned to the Association being performed, without exciting in those authors whose works shall not be noticed, as well as in their friends, a feeling of enmity towards the Association, calculated to impair the harmony and usefulness of its proceedings.

Nor are we convinced that offering a pecuniary reward for the best memoir or essay on any given subject is a means well adapted to promote medical literature, or to procure contributions of distinguished excellence. The comparatively trifling premiums that the Association will be able to offer, and the fact that the memoirs or essays presented for such premiums, must be subjected to the judgment of a committee to pass upon their comparative value, will prevent many of those best qualified to succeed from entering into

* See report F. p. 203.

the competition. The experience of the past does not, we believe, speak much in favour of medical prize essays. Very few can be indicated that have added to our knowledge, or that have established a reputation for their authors, or enhanced the reputation already possessed by them.

In the report of a Special Committee on the measures suggested in the Report on Medical Literature for 1849, which follows, some of the leading means adapted to the promotion of a national medical literature are discussed. The conclusions at which the committee arrive, "after a careful examination of the subject," are summed up in the following resolution :—

"*Resolved*, That the only legitimate means within our reach for the encouragement and maintenance of a National Medical Literature, are, to increase the standard of preliminary and professional education required of those who would enter the medical profession ; to promote the circulation among the members of the profession of the medical journals of the day ; to encourage the establishment of district medical libraries, and to induce every practitioner to cultivate with care the fields of observation and research that are within his reach."

The form of the Memorial presented to Congress, in favour of an international copyright law, presented by the National Medical Association, as reported by a special committee appointed at the preceding session of the Association, succeeds the report just referred to.

On the subject of an international copyright law, which we hold to be one of no trifling importance, we shall take the liberty to present here a quotation from the report of the Committee on Medical Literature. In this quotation, Dr. Stillé has presented the subject in so just a light, that we feel desirous his remarks should be read by such as are still opposed to the contemplated law, that they may understand the equitable principles upon which its passage is advocated.

"Different countries began to legislate for authors and inventors at different periods. In England, the first enactment in their favour is not older than a century and a half. This limited the copyright to a very short term of years, which, after strenuous efforts, has recently been extended. But neither in England, Continental Europe, nor America, does the law recognize an author's rights in his works to be absolute and unalienable, and in no two countries is the same degree of right conceded. Everywhere the subject is as much a matter of statutory regulation, as if the natural right of the author had no existence whatever.

"An American author has, consequently, no available and legal control over his own literary productions beyond what the statute grants him. When the period of its protection expires, his intellectual family may be torn from his arms by the first domestic trader who chooses to risk their sale, and at all times the foreigner may make merchandize of his literary progeny. The legal rights of any author, then, are of local origin, and power beyond his own country he possesses none at all, and he cannot with a show of justice complain that the foreign bookseller reprints his works. To do so would be to act the part of the dog in the fable, who was fain to prevent another from enjoying what he could not possibly use.

"It is the fashion now-a-days to brand as piracy the republication of foreign works, and much vulgar abuse has been bandied between France and Belgium, and between England and the United States, which, we think, the view of the subject now presented would have changed into courteous remonstrance. The legal right to republish cannot be questioned, and its existence should protect all who exercise it from reproach. The equitable right to do so is a wholly different question, one which may and ought to be fully discussed in a spirit of temperance and conciliation. If it be true, as we believe, that no such right exists, it is high time that the law and the equity of the subject should be made to harmonize by the establishment of an international copyright.

"The benefits of such a law would be incalculable, springing from the one glorious consequence, that through it the thinking, and therefore the governing minds of two great nations, common in their origin and language, would be brought directly into contact and fused together, strengthening one another by communion, rivalry, and example, and would with this redoubled strength reach and maintain with ease the vantage-ground of civilization against all the world besides. Commerce may knit together nations, but only in their material interests binding them with the bonds of selfishness; but a free intellectual commerce is the noblest of all bonds, for it knits the souls of men.

"A law such as would secure the rights which we assume to be absolute and inherent, is perhaps the surest expedient that could be devised for promoting our native literature. Not only would it enable publishers to offer a fair remuneration to our authors, but it would also have the effect of causing a number of foreign works to appear first in this country; and since the sphere of influence presented by the millions of American readers is so far superior to any other, many a foreigner of genius and even of established reputation would speedily be numbered amongst our adopted citizens. Grafted thus with the strongest offshoots of the parent tree, American literature would rapidly attain a degree of luxuriance and fruitfulness, which is quite impossible under the present system of its culture, or rather neglect. But the benefits would be reciprocal; our writers would become English writers, and find an attentive and appreciating audience among a people who even now receive them gladly, and award to those who deserve it no scanty meed of praise.

"Until within a short time, the copyright law of England, more liberal than our own, was construed to permit foreigners to enjoy privileges which are denied to British subjects in the United States. But by a recent decision in the Court of Exchequer, 'a foreign author residing abroad, or his assigns, is not an author within the meaning, and could not have the benefit of these acts which are intended for the encouragement of British talent and industry.' In consequence of this decision, American works, which had been liberally paid for by certain English publishers, were immediately re-printed by others and sold at a reduced price; so that American books are now as completely at the mercy of the foreign trade as English books are at the mercy of our own. Considering how far from equitable the practice of American publishers has been, we dare not, with any show of reason, contend against the late unfavourable construction of the Statute of Queen Anne, and must be content to witness the exclusion of our authors from a field where they were gaining emolument as well as honour, and destroying the prejudices entertained against us as an illiterate people, careless of success in any but commercial pursuits.

"Nothing short of an international copyright law can place this matter upon an honourable footing; and so prevalent has the conviction of this truth become, that perhaps not a single man of letters, and scarcely a publisher of books, can now be found to oppose it. Not many years ago, there was an equally general feeling adverse to the measure, at least among publishers, although there never was a time when our authors did not plead for justice to their foreign brethren and themselves. So marked, yet gradual a revolution in opinion can be traced to no other cause than the power of truth. Yet it is not complete, nor will it be until Congress moulds it into the form of law, and, in conjunction with the British government, breaks down this wall of separation between two nations which else, 'like kindred drops, had mingled into one.'"

The report on *Public Hygiene*, which follows, is mainly occupied with an inquiry into the sources of typhus fever and the means suited to their extinction. The inquiry is divided into two parts, the first relating to the origin of typhus from the excretions of persons in health, and the second to its origin from the excretions of persons in disease.

The subject is a highly interesting one, and it is treated by the committee in an able and satisfactory manner. The extent of the various excretions given off by the living body in a state of health—their baneful effects upon the health of those who are exposed to their influence, and the fact that they

may become the sources of a febrile miasm, when from a neglect of domestic and personal cleanliness—defect of ventilation, or the overcrowding of houses or neighbourhoods or communities, these excretions are allowed to accumulate. The committee, it is true, have developed no new facts in relation to this subject; they have, however, presented one class at least of the facts bearing upon it, in a more prominent point of view than has been heretofore done—we allude to those which relate to the extent and nature of the effete matter expelled from the system in a given time.

The following remarks upon the communicability of typhus fever express, we are convinced, the correct exposition of this most important question.

"Many distinguished pathologists regard typhus as springing exclusively from a specific *contagion*. That the disorder is communicable, under certain circumstances, there is no question. The communication, however, is effected by the transmission of a principle which, in its nature, and mode of origin, has no analogy with the poisons of small-pox, measles, and scarlet fever. The poisons of these diseases are the products of specific morbid secretions, or vital processes which are respectively *sui generis*, whilst the poison of typhus consists of the ordinary excreted matters chemically altered in their properties. As then, the excrementitious emanations from a typhus patient may be transmitted to a person in health, and in him produce typhus, the disease, of course, may be said to be communicable. But as the poisonous material communicated is totally unlike a specific contagious virus, the disease in question cannot with propriety be considered *contagious*. The disorder is strictly the effect of a chemical aëriform poison, and as this originates from human excretions, the poison is correctly denominated *idio-miasma*.

"The excretions of patients affected with any form of disease may produce typhus fever; only, however, when they are accumulated and long pent up in confined apartments, or when they are highly vitiated or putrescent, at the moment of their elimination from the body, which is generally their condition in the more malignant forms of typhus. But even when in this form they are rarely the cause of fever—if the persons, clothing, and bedding of patients be preserved clean, and pure air be freely admitted to their apartments.

"From inquiries instituted to determine from which of the special excretions of persons in disease *idio-miasma* mostly originates, it has been found that the cutaneous and pulmonary transpirations generally furnish the elements of the poison. It is true, these excretions are variable in quantity, especially in febrile disorders, being sometimes greatly diminished, and at other times excessive. At no time, however, are they entirely suppressed. Febrile heat, though usually attended with a decrease of exhalation, promotes evaporation, and hence in part the dryness of the skin. When not apparent to the eye or touch, the cutaneous emanations are often manifest to the sense of smell. Edwards, in his work on the 'Influence of Physical Agents on Life,' expresses the opinion that the perspiration can never be entirely suppressed, and Dr. Southwood Smith, in speaking of the odour which belongs to a typhus fever patient, remarks that 'it is so characteristic, that a person familiar with the disease might in many cases be able to pronounce, merely from the odour of the effluvia that arises from the body, whether the disease were fever.'

"With respect to the urine and fæces of the sick, they are discharged occasionally, and are commonly removed from the apartment immediately or shortly after they are voided, and hence they are, in general, comparatively innocuous. It is only, or, for the most part, when these evacuations occur involuntarily, or are allowed to remain in the room of the sick, that they are sources of a fever poison. It is then to the excrementitious matter thrown off from the lungs and skin of diseased persons that the poison of typhus is mostly traceable. Such matters, transformed into a febrile principle, and diffused in the air, constitute what Dr. Miller denominates *atmosphera idio-miasmatica*. Every patient affected with typhus in its gravest form, in a close apartment, is surrounded by such an atmosphere, and it is by the attendants and others coming within the circle of its influence that the disease is propagated. When many typhus

patients are assembled together in a close and narrow space, the miasmatic atmospheres of the sick gradually widen their circles of activity, until, meeting and blending together, the whole place becomes pestiferous. The liability of nurses and physicians of contracting fever in an infirmary is generally proportionate to the number of typhus cases admitted into the wards. Dr. Christison says that it has been invariably remarked, that the admission of a few cases into a general ward is attended with little or no risk of the fever passing to the other inmates of their wards. But so soon as the cases exceed considerably a third of the whole, then the fever begins to show itself among the domestic attendants, and to appear among the other patients. Similar observations have been made in the New York Hospital. It has been remarked by an English writer, in reference to the admission of fever patients into general hospitals, that 'it has been found safer and better to have them scattered as single cases through different wards, instead of congregating them together into one;' and adds, that this plan has been adopted in more than one of the London hospitals; and we believe that there has been, on the whole, no cause to regret having followed it."

The difference which is thus pointed out between the contagiousness and communicability of diseases is unquestionably well founded, and has an important practical bearing. Numerous well-authenticated facts have induced us to believe that persons coming from places in which the air has become infectious, whether from local causes or a general epidemic influence, may carry with them an atmosphere capable of producing disease in a remote locality, or when an epidemic is impending of hastening its outbreak, even when they exhibited no indications of being themselves affected with the disease. This of course can only happen when the individuals alluded to are entirely neglectful of personal cleanliness, and during their passage from the infected localities are placed under circumstances where a free ventilation is precluded, as is too generally the case with poor emigrants in crowded vessels. The tenacity with which the peculiar atmosphere in which a person passes a large portion of the day adheres to his person, and which often can be got rid of only after the most thorough ablution and an entire change of clothing, must have struck every one who has paid any attention to the subject.

In passing from the etiological to the hygienic view of this subject, the committee indicate, in brief outline, the measures to be pursued to prevent the production of the idio-miasma giving rise to typhus fever. The question involves the entire subject of public and private hygiene. In the summary given by the committee, correct general principles are laid down—to point out the plan for carrying these principles out would require a series of reports, each far more voluminous than the one before us.

To the present report are appended two well drawn up and most instructive expositions, the first of the Sanitary Condition of Massachusetts and New England, by Dr. Edward Jarvis, and the second of the Hygienic Characteristics of New Orleans, by Dr. J. C. Simonds.

The general conclusion of Dr. Jarvis is full of truth, and shows the importance of renewed efforts being made to induce the legislature of every State in the Union to provide by law for a proper registration of the births, marriages, and deaths, which annually occur within its limits. The important results of such a registration are too little understood and appreciated by a portion at least of our own profession.

The conclusion of Dr. Jarvis is as follows:—

"A sanitary survey of this and of every other State would, I fear, demonstrate an inequality in the distribution of life in various places, and among various classes of people, such as few, either of the philanthropists or political economists, now suspect. And, when these facts shall be demonstrated, the

way will be open to the discovery of many of the causes of disease and death, some of which certainly, many of which probably, can be removed, and the health of man thereby be increased, and his life prolonged."

There is one result developed by Dr. Jarvis, in his examination and comparison of the registration of deaths in the city and country, in the States of Massachusetts and New York, which would not certainly be anticipated; it is that

"The diseases connected with respiration are much more prevalent in the country than in the city of both States; being in Massachusetts an excess of thirty-two per cent., and in New York twenty-eight per cent. of the pulmonary diseases that are not of the endemic or epidemic class. *The difference in favour of the cities in respect to consumption is still greater.* The deaths from this disease were thirty-eight per cent. more in the rural districts of both States than in Boston and New York."

"Compared with the number of deaths, consumption," remarks Dr. J. in another place, "destroys more in the country than in the cities of England. But the whole number of deaths from this cause, in proportion to the living, is greater in the cities than in the country. It may be so in America, but we have no facts to determine the question for this or any of these States."

We shall indulge in one more quotation from the highly interesting paper of Dr. Jarvis. It relates to the average duration of life in the different classes of society.

"The sanitary inquiries made in England and France have discovered very great inequalities of life and health among people of different classes, and in different conditions. Thus, according to several tables in the 'Report on the Sanitary Condition of the Labouring Classes of England and Wales,' prepared by Edwin Chadwick, Esq., of London, in the families of the

Prosperous classes	1088	died at an average age of		42.6	years
Middling classes	4791	"	"	29	"
Poor classes	19,849	"	"	20.4	"

"In the families of the more comfortably situated, only twenty per cent. died under the age of five years; while among the poor, fifty per cent. of those who died had not passed that age.

"Among the prosperous, 46 in every 100, and among the poor only 8 in 100, lived to their 61st year.

"I have had an opportunity to make some limited inquiries in this State relative to the life and mortality of the various classes of people; and these have led me here to the same results as Mr. Chadwick reached in England: that, wherever there is a diversity of outward circumstances, there is a diversity of vital force, a difference of health and of longevity; that external poverty is but a sign of inward poverty, of a weak body and feeble mental and moral power; and that, generally, what the world calls poverty, the want of estate, or destitution, is not a thing of accident, or of external circumstance, but it grows out of the man, and is a necessary consequence of the quantity of vital force that belongs to him—to his body and to his mind.

"I analyzed the bills of mortality of this town, Dorchester, and divided all the persons who had died into four classes: 1st. Farmers who owned their farms. These are generally the most discreet, quiet, comfortable, and prosperous people. 2d. Labourers, including all who work at day labour or on wages, without capital. 3d. Master mechanics. 4th. Merchants, capitalists, professional men. These classes included all who had died in the course of twenty-seven years, which was as far back as I could trace their condition with any certainty. There were 1767 deaths in this time. The average longevity of all was 32 years, 6 months, and 18 days."

The average longevity of the 1st class was 45 years, 8 months, and 6 days; of the 2d, 27 years, 5 months, and 14 days; of the 3d, 29 years, 6 months, and 21 days; and of the 4th, 33 years, 2 months, and 27 days.

Dr. J. states that a similar result was obtained from an analysis of the bill of mortality of the town of Brooklyn, during a period of 46 years. The average longevity of the 1st class being 39 years, 0 months, 12 days; of the 2d, 27 years, 7 months, 8 days; of the third, 24 years, 2 months, 17 days; and of the fourth, 29 years, 3 months, 3 days.

The same kind of result, he adds, was obtained from an analysis of the mortality register of the town of Concord during a period of 63 years.

We are presented next with the report of the *Committee on Adulterations and Sophistications of Drugs, Medicines, Chemicals*, etc. This committee have well performed the duties enjoined upon them, and have presented a report which embodies much interesting information, and a series of judicious suggestions.

The securing to the community entire purity as well as a genuineness in the various remedial agents demanded for the treatment of disease, is a subject of no trifling importance, inasmuch as upon it depends the chances of safety for the sick, as well as much of the certainty of clinical medicine.

The provisions of the act of Congress directing an inspection of all drugs and chemicals imported from abroad, provided proper care is taken to appoint competent agents to carry these provisions into full effect, are probably sufficient to protect us, as far as can be expected, from the introduction of sophisticated and adulterated medicines from foreign markets, but it becomes next a question, "whether cupidity, aided by science, and the characteristic ingenuity of our countrymen, will not soon supply, if not exceed, the abuses from former sources."

This important inquiry has elicited much attention on the part of the committee, and their conclusions in respect to it are upon the whole satisfactory. That domestic sophistication of drugs does exist to a certain extent is an unquestionable fact; but "it is satisfactory to learn," quoting the words of the report before us, "that thus far there does not appear to be any *increase*, but probably a *diminution*, in the domestic sophistication of drugs. Certainly, if we leave out those whose chief business consists in the scandalous fabrication and sale of *nostrums*, adulterated medicines are not commonly vended in our large cities, excepting under the particular circumstances presently to be mentioned."

These circumstances are the practice pursued by druggists of respectable character, without intention of fraud, of making and vending some of the most important officinal articles of different grades, and of providing low-priced articles for those whose only aim is to buy them cheap.

These inferior and adulterated drugs, we are informed, are chiefly disposed of in the southern and western portions of the United States, to the physicians and people residing in the small towns and villages, and sparsely populated districts. In the large cities, particularly in the Atlantic States, bad drugs are, as a very general rule, dispensed only by inferior apothecaries.

Among the plans which have been suggested to prevent, as far as possible, the sophistication of drugs and the sale of those which are spurious or of inferior quality at home, the committee believe that the following may be considered as the most important.

1st. The passage of laws by the different State legislatures providing for the appointment of inspectors, and making it a penal offence to deal in adulterated drugs or medicines.

"It is difficult," the committee remark, "to understand why fraud in the manufacture and sale of medicines, which have so important an influence on the health and lives of the people, should not be punished with the same se-

verity as debasing and counterfeiting money, which merely affects their pecuniary interests. The past history of state legislation, in relation to the practice of medicine, affords little hope, however, that any salutary laws on this subject can be procured in many or all of the States of the Union; and, without a general concurrence of action, no good will be accomplished. It is to the members of our own profession, therefore, in conjunction with the respectable druggists and apothecaries, that we must look for whatever reformation is to be accomplished.

"2dly. It has been suggested that physicians should feel it to be their duty to inspect the medicines in the drug stores from which they are in the habit of obtaining supplies for themselves or their patients. This would exercise a wholesome influence, if submitted to by the apothecary, and frequently performed by the physician; neither of which, however, is very probable. A more effectual plan, because of its being more likely to be carried out, would be for the various State medical societies annually to appoint a board of examiners, who should procure samples of different articles from the drug stores within their limits, analyze and otherwise examine them, and publish the results. If this were impartially and skillfully done, it would excite the ambition of the meritorious, and control the less scrupulous."

"3dly. The co-operation of the druggists and apothecaries, in discountenancing and putting down the traffic in inferior and adulterated medicines, should be solicited. For this purpose they should be encouraged to institute pharmaceutical associations in every considerable town throughout the country, which, more than anything else, would tend to elevate the professional and moral standing of their craft. Men who are in the habit of meeting together for laudable purposes are far less liable to plunge into bad practices than the isolated being whose better feelings are not warmed by association. The establishment of such societies has always been salutary. In Philadelphia, the institution of the College of Pharmacy, with its cabinet, its lectures, and excellent quarterly journal, which is published regularly, has raised the character of the apothecaries to an enviable height; and in the city of New York, where a like organization has been more recently formed, similar effects are observable.

"4thly. In making their purchases of medicines, physicians should be willing to pay fair prices, and be careful to procure them only from the most respectable druggists. Men of this character, selling in large quantities, never demand exorbitant profits, and it is not to be expected that they will sell good articles at a loss.

"A large amount of the inferior qualities of drugs passes through the hands of country shopkeepers, who deal in dry goods, groceries, hardware, &c.; with people who are such indifferent judges, articles are selected that afford the largest profits, and the quality is pretty certain not to exceed the price.

"A class, worse even than this, of whom to purchase medicines, are druggists whose advertisements are chiefly filled with nostrums and secret preparations. They who deal with men of this description, besides exposing themselves to the risk, amounting almost to certainty, of being cheated, may be regarded as active supporters of the worst kinds of quackery."

The Report of the *Committee on Indigenous Medical Botany* is made up of a paper of Dr. Ives, giving his experience on the virtues of certain plants, and another by Dr. Barratt, on the indigenous plants of Abbeyville District, S. C.

The plants embraced in the paper of Dr. Ives, are the Isnardia palustris, the Senecio aureus, the Neottia pubescens, the several varieties of the Cypripedium, the Cornus circinata and florida, and the Epigea repens, upon the remedial properties of each of which some interesting remarks are made, based mainly upon an experience of more than forty years.

The paper of Dr. Barratt is simply a catalogue on the indigenous plants of the District of Abbeyville—with a bare mention of their medicinal properties or supposed curative powers, excepting in the case of the Cotyledon umbili-

catus, the Gossypium herbaceum, the Anda gomnesii and Helonias dioica. Of the virtues of the first of these we have some account from Parkinson, who wrote in 1640, and from Elizabeth Bakewell, whose *Herbal* was published in 1737, and a reference to some cases of epilepsy detailed in the *British and Foreign Med. and Chirurg.-Review* for January, 1850, in which this plant was used with apparently good effects. Of the efficacy of the seeds of the Cotton plant in intermittent fever, we have the testimony of Dr. W. R. Davies, of South Carolina—which is such as to direct a more extensive investigation of its remedial powers in that disease. The Helonias dioica is recommended by Dr. Braman as a remedy of unquestionable powers in leucorrhœa.

The Report of the *Committee on Surgery*, with its appendices, is one of the longest which occurs in the present volume. The subject of Anæsthesia is first considered. In the body of the report, the chief question which is discussed is as to which of the anæsthetic agents is to be preferred. The testimony of some of the most distinguished surgeons in our country is adduced in favour of each of those now in use, some giving a preference to pure sulphuric ether, others to chloric ether, others to chloroform, and others again to a mixture of chloroform with sulphuric ether. The conclusion to which the committee comes is thus expressed:—

"Were we to employ any other anæsthetic than the simple chloroform, we should select the mixture of it with ether, one measure to two, as practiced by Professor Atlee. From several trials we have made, we think the pulse is rather better sustained than under the chloroform alone."

In addition to what is said in favour of inducing anæsthesia in all important surgical operations, in the body of the Report, we have appended to it a paper by Dr. J. C. Warren, in defence of the practice, and in recommendation of chloric ether as the most advantageous agent. Another paper by Dr. W. T. Atlee, in pointing out the safety and advantages of anæsthesia, and another by Dr. S. D. Gross, on the use of chloroform as the best anæsthetic agent.

It is not our intention to notice in detail the several subjects embraced in this report. The particular surgical diseases and accidents in reference to which any important observations or improvements have been made by American practitioners within a short period are clearly stated, and occasionally enforced or illustrated by the experience of the gentleman, Dr. Mussey, by whom the present able report was drawn up.

Among the appendices to the report is a valuable communication by Dr. J. C. Warren, on the result of operations for the cure of cancer. Eight cases are detailed—four scirrhomatous and four cephalomatous—in all of which the operation appears to have effected a complete eradication of the disease.

"Three of the scirrhomatous cases," remarks Dr. Warren, "occurred after the middle period of life, the fourth at that period. In all four cases, the patients enjoyed a good state of health. One of them, the first, was quite remarkable throughout her life, subsequent to the operation, for her strength of mind and full possession of her bodily faculties, till near the period of her death. Of the four cephalomatous cases, none exceeded thirty at the time of the operation. All are perfectly well, and with appearances which indicate that they may never experience a return of the encephaloid disease."

Dr. Warren is evidently of the opinion that cancer in a large number of cases is strictly a local disease, and that the diseased part may be extirpated, and the whole mischief be in this manner got rid of. And he hints that a correct history of all the cases of cancer for which operations have been performed with their results would support this conclusion. We confess that our own opinion has been the reverse of that of Dr. Warren. It may be that

the change of organization and nutrition is occasionally strictly local—and we hope that future investigations may prove it to be so; so far, however, the facts at present in our possession would seem to lead to the opposite conclusion.

In an appendix to the present volume of Transactions is contained some observations by Dr. N. S. Davis, of Illinois, undertaken to ascertain how far the cerebellum has any special connection with the sexual propensity or function of generation. He compared the measurement in a variety of directions, as well as the weights of the cerebellum in the brains of a number of bulls and oxen, all of the same age, and, as nearly as possible, of the same general size and variety of stock. The average of the several measurements and weights, and the extremes, are presented. Dr. Davis then remarks—

"It will be seen that these examinations not only confirm those of M. Lassaigne, so far as the relative and absolute weight of the cerebellum of the castrated animal is compared with that of the same age not castrated, but the measurements equally refute the *moderate phrenological view* mentioned by Carpenter, which, as we have already said, makes the central part and vermiform processes the organ of sexual appetite, and the lateral lobes the co-ordinates of motion. On the contrary, so far as our measurements indicate any difference, it consists in the greater relative development of the central part and vermiform processes in the ox than in the bull. And if the cerebellum of the ox is deficient in any part, it is in the size of the *lateral lobes*. But on the most careful examination of half a dozen cerebelli of bulls and oxen, lying side by side, I could detect no constant or uniform variation either in their absolute size or the relative development of their several parts. Now, unless we deny the validity of the physiological law, so much insisted on, especially by phrenologists, that exercise increases growth, and *vice versâ*, it must be conceded that the facts here adduced in reference to the cerebelli of oxen and bulls, added to those presented by M. Lassaigne in reference to the gelding and stallion, effectually disprove the existence of any *special* connection between the cerebellum, either as a whole or in any of its parts, and the sexual appetite or function of generation."

A description is next given by Dr. John Evans, of Illinois, of an obstetrical extractor, adapted, in his opinion, to supersede the forceps—being free from many, and the most serious, of the objections to which the latter is liable.

The principle upon which it operates is that of placing a band around the head of the child above its largest diameter, and fixing the ends near together, by articulated steel fingers, so that it cannot be drawn off. From this band straps pass down to the vertex, and out through the os externum, to be grasped by the hand, and upon which the extractive force is exerted. The band is applied after the manner of passing the ligature around a polypus by Gooch's double canula.

The form and mode of application of the instrument cannot be well understood without the drawings which accompany the description.

We can see no difficulty in the application of Dr. Evans' extractor—but doubt whether it will be found superior to a well-constructed forceps. One objection which strikes us is that the material of which the instrument is principally constructed—silk bands and braids—must necessarily become imbued with the discharges from the vagina and uterus upon each application of it, without the possibility of its being effectually cleansed previously to its being again used. Consequently, either a new instrument must be provided for each case, or we shall run the risk of subjecting our patients to the influence of morbific matters retained by the instrument.

The volume concludes with a "Brief Notice of some of the Physicians of the United States who have died within a few years;" collected and arranged by Dr. Stephen W. Williams, of Massachusetts.

These notices, though not drawn up with all the care and neatness that were

desirable, are nevertheless interesting. To Dr. Williams we return our thanks for thus presenting a brief memorial of those members of our profession who have recently departed from our midst, and we trust that the same thing may be repeated by him or some other member of the Association at each of its sessions, so that a necrology, at least, may be preserved of the deceased members of our profession. The knowledge that a record of his name and professional character will be made and thus handed down to those who shall live long after he has ceased to be, will not unfrequently act as an additional incentive to the physician to exert every energy of his mind and heart to render that record one of honour and distinction.

We have thus sketched out a partial notice of the more important contents of the volume before us. Our purpose has been rather to direct attention to the matters embraced in the reports and other papers of which the volume is composed than to give a full analysis of them. Those of our readers who feel an interest in the doings of the Association, and in the influence which that body is destined to exert upon the character of the medical profession in this country, will of course procure for themselves a copy of the Transactions.

The general character of the reports comprised in the present volume is equal, if not superior, to that of the reports contained in the two preceding; they do great credit to the talents and industry of the gentlemen by whom they were prepared. They are more strictly confined to a history of the progress of American medicine, and to subjects bearing immediately upon the interests of the medical profession in this country; they exhibit also the evidences of perfect candour and an honest desire to reform, as far as possible, any evils under which the profession may labour, and to elevate it to its appropriate rank of a learned and liberal profession.

It has been said that the American Medical Association will ever fail in carrying out the objects for which it was organized, from its inability to enforce compliance with its requirements, or to carry into full effect any one of the reforms it may suggest. It is true that the Association has no legal means to enforce its decisions, but it has the slower, it is true, but perhaps more certain, influence of moral power. It can, by wise counsel, and unity of action, so mould public opinion as effectually to subserve the objects it was intended to accomplish. It is impossible that the deliberations and recommendations of a congress, composed of a large body of the most experienced and talented physicians, assembling annually from every portion of the Union, and bearing with them the respect and confidence of their professional brethren and of the communities in which they reside, can fail to carry with them sufficient influence to insure the adoption, finally, of every reasonable reform in medical education and ethics, and thus to ensure the elevation of the character of the American physician. D. F. C.

Art. XVIII.—*A Dissertation upon Dislocations and Fractures of the Clavicle and Shoulder-Joint, being the Jacksonian Prize Essay for* 1846. By Thomas Callaway, F. R. C. S. Demonstrator of Anatomy to Guy's Hospital, &c. &c. &c. 8vo. pp. 178 : London, 1849.

It is impossible to devote too much study to the injuries of the upper extremity; and, therefore, although in all the systematic treatises on practical surgery fractures and dislocations occupy prominent places, and although there are many voluminous works extant devoted to these subjects exclusively, we

always peruse with pleasure every new volume in which a competent observer discourses on these topics.

The book before us has attracted very kind attention at home and abroad. A glance at the table of contents shows that the author has adopted the proper course in conducting his studies. He first describes very carefully and truthfully the *anatomy* of the parts concerned in the injuries which he is about to explain, and then points out the alterations of structure and function impressed upon them by accidental causes.

We pass over Mr. Callaway's observations concerning *the bones*—the clavicle, scapula and os humeri—and pause for a moment at the section in which he describes the *scapulo-humeral articulation*. The bones which enter into this articulation are the head of the humerus and the glenoid cavity of the scapula. "The ligaments of the true cavity are, the glenoid; the capsular, with its synovial membrane; the coraco-humeral, or accessory; and the *long head of the biceps*, or intra-articular." It will be perceived by the above quotation that the author ascribes to the long tendon of the *biceps muscle* an office additional to that which it possesses in virtue of its connection with the fibres of the muscle. His remarks on this point are so interesting that we will quote them somewhat in full; he acknowledges his indebtedness to Mr Hilton, of Guy's Hospital, for the physiological views expressed with reference to the function of the tendon; they are similar to those published by Mr. Soden in the *Med.-Chir. Transactions* for 1841. "The *glenoid ligament* is a band of fibrous structure, oval in its form, which runs around the rim of the cavity, and, by elevating its margin, serves to deepen it; it is formed by *the splitting of the long head of the biceps*, which, bifurcating at its upper border, passes round and again becomes united at the inferior margin of the cavity." "The long head of the biceps is of so great importance to the integrity of the shoulder joint, in *directing the head of the humerus*, that it has been very properly considered as an inter-articular ligament by some anatomists; by surgeons, however, its importance has been rather overlooked or undervalued. It arises from the upper part of the glenoid cavity (being most intimately connected, or rather identical, with the glenoid ligament itself), passes over the head of the humerus and under the capsular ligament; being perfectly independent of either, it is entirely invested by a synovial sheath of its own, and holds much the same relation to the cavity of the shoulder that the ligamentum teres does to that of the hip. Having arrived at the margin of the anatomical neck of the bone, it passes between the two tuberosities and down the bicipital sulcus to the belly of the muscle, whose great natural contractile power, being further stimulated by the constant action of the forearm, tends to keep the tendon tense; otherwise it would be constantly liable to be thrown into a fold, or, becoming lax, to impede the motions of the joint. It will thus be seen that the tendon, in some measure, tends to render the capsule of the joint incomplete; it, however, forms about one-third of a circle, which, together with the concavity of the glenoid fossa, makes about two-thirds of a circle, and compensates in no slight degree for the shallowness of the cavity. Let us suppose that the deltoid be put in motion; the head of the humerus *ought* to be brought *directly upwards*, and would, without doubt, impinge against the under surface of the acromion arch. This, however, does not take place; the polished hemisphere of the humerus is carried against the under surface of the tendon, which, acting as a curved director, guides the rounded head of the bone inwards and backwards against the glenoid cavity." This fact is well illustrated by two diagrams, in one of which the tendon is exhibited *in sitû*, and in the other it is divided.

The capsular ligament (a bag so long and lax that when the supra and infra-

spinatus, the teres minor, and subscapularis muscles, which are intimately connected with it, and which tend, more or less, to support the head of the humerus, are cut away, the latter falls down from the scapula an inch or more), is strengthened in its turn by fibres sent from the tendons of some of the muscles about the joint. Thus this important articulation, admitting of such almost unlimited motion, and exposed to so many sources of accident, is wisely and sufficiently protected.

The description in the text of the muscles situated about the bones and joints is very satisfactory and well worthy of an attentive perusal. But we cannot dwell upon it. We pass to the *Fractures of the Clavicle.*

Mr. Callaway does not treat at all of the process by which a fracture of the bone is repaired. With reference to fracture of the clavicle, he merely remarks that this is accomplished for this bone sooner than for any other, and fixes the time at which a laborer may return to his work at the *end of the fourth week.* We think, from the experience which we have had in this matter, that the addition of a week to this allotment would be a much safer limit.

The clavicle, from its slender proportions, delicate structure, and exposed situation, is very often fractured; and though the rupture of the bony fibres may take place at any point, it occurs more frequently, perhaps, at the point at which the two arches of the bone unite—at about its middle. Nevertheless, for convenience in describing the evidences of this lesion, the author considers the injury as occurring either within or without the point of attachment of the *coraco-clavicular ligament.* And this division is a very good one, because the symptoms of the two fractures are very dissimilar, and because, too, the phenomena attending the accident at points within the one named present merely shades of modifications.

The signs of the *intra-coracoid* fracture are well detailed—they are generally unmistakeable. But some little variety of explanation exists with reference to the *causes* of the deformity. The outer fragment is drawn downwards by the weight of the arm, and perhaps by the action of the deltoid, and forwards and inwards by the contraction of the pectoral and subclavius muscles, so that it is overlapped by the outer end of the internal fragment. The latter is supposed by some to remain stationary; by others, and by Mr. Callaway also, it is said to be tilted *upwards* by the action of the sterno-cleido-mastoid muscle. But it seems to us that this muscle cannot exert any such power upon it, partly because of the unfavourable direction of its fibres, but chiefly because the sterno-clavicular and costo-clavicular ligaments would be opposed to any such effect; and their passive influence would be aided, in all probability, by the action of the subclavius, and also of the pectoralis major.

In some rare instances, it happens that the outer fragment presents its inner extremity above and in front of the sternal portion. Again, it not unfrequently occurs, as we have had more than one opportunity of observing, that a fracture may involve the middle of the bone, and there shall be no displacement. This latter variety is usually met with, as the author mentions, in young people. Besides the cases to which he alludes, we will mention one which came under our own inspection. A stout healthy boy about seven years old was brought to us, said to have fallen upon his shoulder and broken his collar-bone. He complained of inability to move his arm, and suffered pain, particularly about the middle of the clavicle, when the arm was moved for him; there was tenderness and soreness at the same point; no swelling, no evidence of contusion, and we could not detect the slightest crepitus upon careful and varied manipulation. We placed the arm in a sling, and dismissed the boy, assuring his mother that it was "only a bruise." A few days afterwards, while in

the act of throwing a stone, a separation of the fragments occurred at the middle of the bone, and all doubts as to the reality of the fracture vanished. In such cases, the fragments are maintained in apposition, as the author observes, by the integrity of the periosteum covering the bone.

The *extra-coracoid* variety of the injury is attended with much less deformity, as a general rule. Mr. Callaway says of it: "From its very simplicity and want of obvious symptoms, it is oftentimes overlooked, its characteristic being a negative one, viz., the *absence of displacement.* In this accident the motions of the arm are impaired, but to no considerable degree; measurement of the two shows no difference. I have, however, observed a somewhat drooping inclination in the affected shoulder." The reality of the injury can, however, as he remarks, be almost always, if not invariably, recognized by a thorough examination—crepitus being usually detected. He is careful to indicate how this sign may be best elicited.

In examining into the causes of the non-displacement after this fracture, Mr. Callaway ascribes this exemption to the integrity of the coraco-clavicular and coraco-acromial ligaments, which, holding both fragments in their grasp, prevent any dislocation; he considers the breadth of the fractured surfaces as of very secondary consequence, and that too small a portion of the deltoid muscle is brought to bear upon the inner fragment to serve any effect of importance.

We do not think that Mr. Callaway has sufficiently called attention to the distinction to be drawn between fractures occurring *exterior* to the *trapezoid ligament* and those which involve the bone *between this and the conoid.* And yet this distinction is important, because in the former there is considerable displacement, while in the latter there is scarcely any. This fact has been established and explained by Dr. R. W. Smith, of Dublin. Mr. Callaway, indeed, refers to the investigations of Dr. Smith, and pays him a well-merited compliment; he also quotes the following passage from a paper published by this gentleman in the *Dublin Journal* for 1841, suggested by the examination of a series of fractures of the clavicle, occurring between the conoid and trapezoid ligaments: "In all the fracture had united; in some without deformity, but in the greater number the deformity resulting from the injury remained, and in each specimen presented nearly similar characters —the fragments being united nearly at a right angle, which was salient upwards and backwards, the infra-clavicular space was considerably diminished by the displacement consequent upon the fracture; in every one of the specimens a remarkable process of bone, varying from a quarter to three-quarters of an inch, had sprung from the under surface of the clavicle at the seat of fracture. This portion of bone is generally to be found when fracture has traversed the bone between the conoid and trapezoid ligaments. In none of the specimens was there any overlapping of the fragments." We have not been able to see the volume of the Journal from which this extract is made; but the opinions expressed therein are very different from those which we find in Dr. Smith's recent and most valuable "Treatise on Fractures in the vicinity of the Joints," &c.; and as Mr. Callaway has seen this book, he should have referred to it for the author's more mature views on this subject. In this volume, we find that Dr. Smith's opinions are based upon the examination of *eight* specimens of fracture of the outer end of the clavicle, in *five* of which the bone was broken between the trapezoid ligament and the acromion process of the scapula; in the remaining *three* between the conoid and trapezoid ligaments. He says: "From the examination of these preparations, we learn that the outer extremity of the clavicle may be broken either between the coraco-clavicular liga-

ments, or between the trapezoid ligament and the acromion; and that fracture in the *former situation* is of comparatively rare occurrence, and attended with *scarcely any displacement* of either fragment of the bone; but that in the latter, contrary to what is usually stated, there is generally a *considerable amount* of *displacement.* When the bone is broken between the coraco-clavicular ligaments, it is manifest that, if these structures have not been injured, there can be but little displacement of the fragments, according to the thickness of the bone, although there may be a slight derangement as regards its direction" —p. 215. Again, at p. 217, he says, "When the clavicle is broken between the conoid and trapezoid ligaments, there is, in general, so little external deformity, that it is sometimes difficult to detect the true nature of the injury." "But the case is very different when the bone is broken external to the trapezoid ligament. Here the coraco-clavicular ligaments can have no direct influence upon the outer fragment, which is displaced partly by muscular action, and partly in consequence of an alteration in the position of the shoulder." "When this displacement is carried to the utmost, the two fragments, as in several of the specimens which have been described, form a right angle with each other, the outer being placed in front of the inner, and a small portion only of the articulating surface of the former remaining in contact with that of the acromion"—pp. 215–16. "When an examination is made, the outer fragment will, in the majority of cases, be found to be slightly depressed below the level of the inner, and the anterior part of the affected shoulder is approximated, to the amount of from one-fourth to three-fourths of an inch, toward the sternum. In one case, the *inner* fragment, as well as the outer, was depressed, thus increasing the usual deformity to a great degree"—p. 218.

It would seem, therefore, from these quotations, that Mr. Callaway has confounded the remarks of Dr. Smith, ascribing to him views concerning the fracture between the coraco-clavicular ligaments which we find him entertaining, for the most part, with reference to that which has occurred between the acromion process of the scapula and the trapezoid ligament.

Dr. S. attributes the displacement in the latter fracture to the influence of the action of the trapezius muscle on the one side, and of the weight of the shoulder and the action of the deltoid and pectoral muscles on the other; while at the same time the scapula is made to perform a partial revolution on its axis, drawing with it the outer extremity of the clavicle forwards; this revolution being effected by the contraction of the rhomboid muscles, which approximates the inferior angle of the scapula to the spine, while the superior angle falls away from the spine in obedience to the weight of the arm.

The commonly received opinion, that there is no displacement after fracture of the clavicle exterior to the coraco-clavicular ligament, must therefore be admitted with some modification.

Mr. Callaway justly observes that *compound fracture* of the clavicle is very rare, unless the complication be caused by *direct violence.* But he contends that this does not produce "a true compound fracture, which, to my apprehension," he says, "consists properly of wounds communicating with *and caused by* the fractured bone. The practical bearing of the distinction is this—the violence which produces the fracture and consequent wound breaks up the cellular tissue investing the neighbouring muscles and soft parts, into which the air, becoming admitted, induces those enormous and formidable suppurating cavities in the limb which we find so frequently after compound fractures. In short, it seems that the distinction between a simple or a compound fracture is, that the former heals by the adhesive and the latter by the suppurative process of inflammation"—p. 62. Now, by this very feature, a fracture which is accompanied

by laceration of the integuments, so situated and of such extent as that the air has free access to the broken bone at the point of fracture, *is a compound fracture*, whether the wound in the soft parts has been produced by the protrusion of the fragment, or by a direct external blow. For in both cases the reparation is rendered slow by the same untoward conditions, and in both its progress is attended by the formation of similar "enormous and suppurating cavities."

With respect to the best means of retaining in proper apposition the fragments of a broken clavicle, and of preserving the normal form of the bone, we think that Mr. Callaway is not so well informed as he should be. Admitting the correctness of the *principle* laid down by Desault, and it is undoubtedly correct, Mr. Callaway recommends Desault's *method of treatment*, or a modification of it, which differs from the original only in omitting the first roller, and the sling for the support of the forearm and hand; and in this latter particular it certainly is not an *improvement* upon the original. "The objection to this bandage is," he says, "that, owing to the pressure it makes upon the mammæ and thorax, it is not well adapted to females; it requires some little skill in bandaging, and is very apt to become deranged. Still, it has a neat look; if it excoriates, the part can be cut; its application does not terrify the patient, and, above all, pressure can be better regulated by a roller than by any other apparatus"—p. 65. We submit that the objections, as above announced, *far outweigh* the assumed merits of this dressing. But, in addition to those disadvantages, we urge that it does not fulfil all the indications of treatment, inasmuch as it does not force the shoulder *backwards* as completely as is generally necessary; that it is entirely unsuited to compound fractures, and that, in order to examine the position of the fragments and the condition of the integuments at any time after this bandage has been applied, it is requisite to remove at least one roller, and that one which is supposed to fulfil a very important part of the treatment. And with regard to its chief merit, as Mr. Callaway considers it, viz., that "pressure can be better regulated by a roller than by any other apparatus," we ask what prudent intelligent surgeon would attempt to maintain the fragments of a clavicle in apposition by *direct pressure exercised upon them*? Instead of this cumbersome, uncomfortable, and comparatively inefficient apparatus of Desault, we would advise the employment of Dr. Fox's; it fulfils all the indications, produces no unpleasant compression of the mammæ or thorax, is neat and cleanly, leaves the seat of injury always uncovered and open to the inspection of the surgeon, or for the employment of any topical application, is equally well adapted to the treatment of compound as of simple fractures, and admits of re-adjustment without removing any part of it; we do not believe that its application in England will "terrify the patient." A description of this apparatus may be found in the American reprint of any English system of Surgery, and in the treatises on minor surgery published in this country. If Mr. Callaway will adopt this method of treatment, we think he will no longer have occasion to "doubt if any fracture (excepting perhaps that of the extremity of the radius) turns out so unsatisfactory," or to lament that "fractures of the clavicle do not usually turn out triumphs of our art"—p. 63. But even with this very perfect apparatus in use, we feel bound to advise him to depart somewhat from his "rule, to *pay attention to the bandage at the end of a week*"—p. 66. St. Luke himself, with all his inspiration, would have failed had he been so chary of his attentions to his patients! Mr. Callaway *must examine carefully the dressing at least once daily*, in order to be sure of the continued apposition of the fragments, and to relieve any undue pressure upon any one point. He will thus, we doubt not, be more successful

in his treatment of this interesting and important fracture than he seems to have been hitherto.

We pass to the chapter on *Dislocations of the Clavicle.* Of these, Mr. Callaway adopts the most common enumeration, viz., dislocation of the sternal end *upwards, forwards,* and *backwards;* and of the acromial end, *upwards,* and *downwards* under the acromion process of the scapula. In any case, the accident may be a *simple* or a compound, a complete or an incomplete luxation.

The dislocation *forwards* he considers as the most frequent of those occurring at the sternal extremity of the clavicle. His statement of the *signs* and *symptoms* of this accident is sufficiently correct and definite, although there is no detail, and nothing of the full and minute history which we expect to find in a work devoted to the consideration of a very limited number of accidents. He states as *the causes* of this variety of luxation a fall upon the apex of the shoulder, or upon the elbow when the arm is abducted from the side, and any great force applied to the anterior part of the shoulder. He has omitted one which is, perhaps, as frequent as any—a sudden and forcible drawing of the shoulder or shoulders backwards, as in the case mentioned by Boyer, of a baker's boy, who, while resting his basket, which was secured to him by straps passing around and in front of his shoulders and under the axillæ, on the parapet of a bridge, started forwards, in order to save his basket, which he felt to be falling over, and thus dislocated one clavicle forwards.

Mr. Callaway gives no cases of this accident, nor any recital of the post-mortem appearances. Indeed, neither in this chapter, nor in the preceding, does he allude to the latter important point, although he might have discovered some instances, we should suppose, in which death followed within a short time after both fractures and dislocations of the clavicle, and in which the lesions met with in both had been described. At any rate, an essay on fractures and dislocations is manifestly incomplete, which does not include a description of the appearances of the fragments of the bone, and the condition of the soft parts surrounding them, in the former class of accidents, and of the nature and extent of the injury done to the ligaments of the interested joint, together with other modifications of structure consequent upon the change in the normal situation of the bone, in the latter.

The dislocation of the sternal end *backwards* is much less frequent than the one just mentioned: nevertheless, several cases of the injury are recorded to which Mr. Callaway refers. The evidences and the causes of the displacement are sufficiently enumerated. The sternal end of the bone may be thrown *downwards* or *upwards,* as well as backwards. Mr. Callaway thinks that when this displacement is *upwards,* it is so always *secondarily,* the primary direction having been downwards behind the sternum. He attributes this change of position to the effect of the weight of the arm and the contraction of the sterno-cleido-mastoid muscle. But, we would ask, why may not this position upwards have been the *primary* situation assumed by the bone? For, unless the force which produced the dislocation have impressed upon the extremity of the clavicle a decided *direction downwards,* certainly the contraction of the sterno-mastoid and the weight of the shoulder would induce an upward motion at the moment of luxation. It must always be a matter of conjecture, on the part of the surgeon, whether a particular displacement be secondary or not, unless a different location has been actually *seen.* And in this particular instance, we think it much more probable that, when the sternal end of the clavicle is found resting behind and above the top of the sternum, it was made to assume this position, directly upon leaving its articular seat, by the tonic contraction of the sterno-mastoid, than that it was drawn from below by this

muscle; for, one of the evidences of the dislocation *downwards* and backwards is the *fixity* of the bone in this position, so that its restoration is often a matter of great difficulty.

Mr. Callaway explains very well the method of reducing this dislocation. He quotes an instance of this accident; but he omits, unfortunately, two of the most interesting and important elements in a clinical report, viz., the narration of the evidences which led to the *diagnosis* of the case, and the mode of reducing the injury. In the event of the luxation proving irreducible, and accompanied by very great difficulty or inability of swallowing, he recommends "to cut down upon the bone, pass a broad curved spatula behind it, and with Scultetus' chain or Solly's saw remove the offending portion of bone."

The dislocation *upwards* of the sternal extremity of the clavicle, Mr. Callaway considers as a *secondary* luxation—"a sequence and a consequence" of the dislocation *forwards*. In support of this opinion, he refers to the strength of the inter-clavicular and rhomboid ligaments, and he says, "I scarcely think it possible to depress the humeral end of the bone, by any violence, to such an extent as shall make the sternal end start upwards out of its place; because the entire shoulder, humerus, and scapula would have to be depressed to produce the accident, inasmuch as the accident could not be caused by the depression of the clavicle alone, as the descent of this bone would be limited by its coming in contact with the coracoid process, and its further descent prevented." And he cites an example of such a descent of the clavicle, in the instance of a milkman, who, in the pursuit of his trade, had been accustomed to carry his pails on his shoulders. In this case it was found, after death, that "both the clavicles articulated by their under surfaces with the coracoid processes of their respective scapulæ, on both sides; the sternal end of the clavicle was in proper relation with the sternum, the coraco-clavicular ligament was much shortened and thickened, and there was no appearance of a dislocation upwards." This certainly is a very interesting pathological specimen; but the change from the normal position of these clavicles was *gradually* produced by the *continued pressure* exercised upon them, and not caused by sudden violence. This instance, therefore, can scarcely be admitted as evidence against the possibility of a dislocation upwards of the sternal end of the clavicle as the result of *sudden violence* impinging upon its acromial extremity. However, be this possible or not, there is very little doubt, we think, that such a luxation may be occasioned by direct force inflicted from below and in front upon the *sternal* extremity of the bone. The action and the effect of such a cause Mr. Callaway has not noticed. We cannot, therefore, agree with him in thinking that "it is necessary for the *anterior* dislocation to take place, before the end of the clavicle shall make its appearance above the level of the sternum"—p. 77. We consider that this opinion is too *exclusive;* such a secondary change of position may take place, we doubt not, and perhaps this may be the most common mechanism of the dislocation upwards; in which case, the agents in producing this change would be, as mentioned by Mr. Callaway, the weight of the shoulder and the contraction of the sterno-cleido-mastoid muscle.

Mr. Callaway admits two varieties of dislocation of the *acromial* end of the clavicle, viz., *upwards* and *downwards*.

The displacement *upwards* upon the top of the acromion he considers, and we should think correctly, the most common variety of dislocation of the clavicle. The diagnosis of this injury is sufficiently easy, in most cases. Its causes are, according to Mr. Calloway, the obliquity of the articulating surfaces comprising this joint, and a fall or a blow upon the shoulder; the former

is a predisposing cause, the latter are efficient. The signs of this accident are very well narrated in the text. An example in point is given from the wards of Guy's Hospital; but in this instance, also, we have to regret the absence of information as to the *appearances* by which "it was immediately pronounced by the dresser to be a dislocation backwards of the acromial end of the clavicle near the scapula." To restore the bone to its proper position, "the patient was seated upon a low stool, his shoulders were forced backwards, the surgeon's knee being placed between the scapula; pressure was at the same time made upon the posterior edge of the bone." This method failed; it was again tried, with the aid of a warm bath; it was again unsuccessful, as was every other plan. At last, says Mr. Callaway, p. 79, Mr. C. A. Key "had recourse to a very ingenious plan: he took a piece of wood, well padded with lint, and having applied it to the distal end of the bone, and struck it several times with a mallet, a fair trial was given to this, and the bone, although evidently not so prominent, and somewhat moved, was still unreduced," and it remained unreduced. What end Mr. Key could have rationally hoped to accomplish by such a proceeding we cannot imagine, unless it may have been to fracture the clavicle near its middle, or to dislocate its sternal extremity, for such was most likely to have been the result of the operation of this "very ingenious plan."

Another example of this accident is given; it occurred a few weeks only after the former, and was also treated in Guy's Hospital. The dislocation was occasioned by a fall upon the tip of the shoulder, while the patient was wrestling. Again, the narration of the appearances is meagre in the extreme. "Examination by Mr. Foster, the dresser, showed a well-marked injury. The anterior edge of the trapezius was observed to be tense and well defined." In this case the reduction was accomplished; the surgeon placed his left arm in the axilla, and taking the elbow of the affected side in his right hand, pushed it upwards, backwards and outwards; the bone immediately returned to its place.

The displacement of the distal end of the clavicle *downwards, under the acromion process* of the scapula, is an excessively rare injury. Mr. Callaway says that there is only *one* case recorded, that by M. Tournel, in the *Archives de Médecine* for Dec. 1837. There is also another example on record, and equally incontestable; it is reported by Mell (Vidal de Cassis, t. ii. 587; South's Chelius, Am. ed. vol. ii. 220). In the first case, a private chasseur fell with his horse; the horse on rising trod upon the anterior part of the man's shoulder. "The clavicle remained attached to the sternum; but the superior and inferior acromio-clavicular, the coraco-clavicular ligaments being torn through, its external extremity quitted the two articulatory facettes, and glided under the acromion. The injured part presented two projections; a *superior* one, formed by the acromion; the other, *inferior*, by the external extremity of the clavicle; the apex of the same shoulder appeared approximated to the trunk; moreover, there was no projection to be felt above the acromion process, thus doing away with the idea of its being a dislocation of the acromion process"—p. 83. Mr. Callaway does not direct how the restoration of the extremity of the bone is to be effected, but the proper method will, doubtless, occur to the reader.

There is a third form of luxation of this extremity of the clavicle, which Mr. Callaway does not mention; indeed, we have not seen it noticed by any English or American surgeon. It is the luxation *under the coracoid process.* Vidal de Cassis (t. ii. 590–4) cites *six cases* of this accident; we believe that in no instance was an autopsy made, but as the signs of this dislocation were somewhat different from those attending the other varieties, and as there seems

to us to be nothing in the anatomy of the parts to render such a displacement impossible, we are disposed to admit its existence. The evidences of its occurrence in the instances recorded were, according to Vidal, diminished prominence of the shoulder, which is at the same time thrown forwards; the arm hanging by the side, without being lengthened, and susceptible of being easily moved, without increase of pain, in every direction, excepting inwards and upwards; ecchymosis of the acromio-coracoid region, and sinking of the clavicle, particularly of its external portion, of which the extremity may be felt, it is said, in the axilla. The distance of the acromion from the sternum is not mentioned in these cases, but, according to Vidal and Morel, it is *increased*, and thus constitutes a diagnostic sign of this peculiar displacement, because in all the other injuries involving the clavicle, the distance between these two points either remains the same or is diminished.

The mechanism of this dislocation may be thus explained: A violent fall upon the anterior and outer face of the shoulder, or a severe blow acting upon this point from below, throws the scapula upwards and backwards, so that the coracoid process is forced to a higher level than the outer extremity of the clavicle, its external ligaments being ruptured, while its horizontal line of direction is preserved by its connection with the sternum and first rib, and with the subclavius and pectoralis major muscles; so soon as the action of the dislocating cause has ceased, the scapula will be thrown forwards, partly by the weight of the arm, and partly by the action of the muscles which draw upon the shoulder from the anterior part of the chest.

In the after-treatment of the several dislocations of the clavicle, Mr. Callaway advises the employment of his modification of Desault's apparatus for the treatment of fractures of this bone. We would substitute that of Dr. Fox, because we think that it will preserve the parts in much more perfect apposition; its action should be assisted by a compress and roller, or by the application of the truss, as recommended by Melur, if the sternal end be displaced. (Vid. *Archives de Médecine*, t. xix. p. 531.)

We come now to the consideration of *fractures of the scapula*—comparatively unfrequent because of the protection which this bone derives from its surrounding and enveloping muscles. Mr. Lonsdale reports only eighteen *cases* of this accident out of 1901 fractures which were treated in the Middlesex Hospital, during six years. Mr. Callaway classes them after the usual manner: those of the body of the scapula as supra and infra-spinal fractures; those of its angles as of the anterior angle or neck of the bone, and of the inferior angle; and lastly of the processes.

We are pleased with the contents of this chapter. Besides the author's concise and judicious observations on the manner of occurrence, and the indications of these accidents, he reports some exceedingly interesting cases: one of fracture of *the body* of the scapula, the result of muscular action, in a robust, athletic man; another of fracture of the *cervix scapulæ*, accompanied by a drawing illustrating the appearances of the bone; and the third of "*displacement* of the *lowest angle* of the *scapula*." The last is quoted from Mr. Liston's *Elements of Surgery*. It is an instance of a very rare accident in which the inferior angle of the scapula has escaped from beneath the overlapping edge of the latissimus dorsi muscle, in consequence of the arm having been raised too high. "The angle of the bone projects considerably, and the muscle is felt playing beneath it: the movements of the limb are limited and painful." The reduction is accomplished by raising the arm, and pressing the angle of the scapula inwards. Mr. Callaway makes the following ingenious suggestion concerning its cause: "I think it is a question worthy of consi-

deration, whether the accident depends at all upon the muscle having an origin from the angle of the bone; at any rate, I think this circumstance is a predisposing cause, and would be very likely to favour the accident, inasmuch as these fibres, taking their *point d'appui*, under peculiar circumstances, from the insertion of the muscle, would act upon the angle of the bone and draw it upwards and over that portion of the muscle arising from the dorsal spines. It would occur, I conceive, in weak, delicate persons. Were I to have a case of which I could not effect the reduction, I should not hesitate to divide by the subcutaneous section the obstructing fibres of the muscle," &c.—p 98.

Mr. Callaway makes no mention of compound fracture of this bone, nor of the sub-osteal inflammations and collections of pus which sometimes occur after fractures of the body of the scapula, the result of violent contusion, and which are so painful and so troublesome.

A very large portion of the volume is justly devoted to the elucidation of the *dislocations of the shoulder-joint.*

The great size of the head of the humerus, as compared with that of the glenoid cavity, the looseness of the capsule, and the extent and variety of motion enjoyed by the arm at the shoulder, all conspire to render the luxation of the humerus a relatively frequent accident, notwithstanding the numerous safeguards which have been instituted against its occurrence. Thus out of 575 dislocations cited by Mr. Callaway, from statements made by Malgaigne and Dr. Norris, 370 were of the humerus; and Bichât published that, during seven years, a greater number of cases of this dislocation was received at the Hôtel Dieu, than of all other dislocations collectively.

From the tables of statistics, quoted by Mr. Callaway, published by Malgaigne in his *Etudes Statistiques*, which must have cost the author a vast amount of labour and diligent inquiry, we may deduce the following inferences: 1st, that dislocation of the scapulo-humeral articulation most commonly occurs between the age of 15 and 48 years, the proportion relatively to the aggregate of luxations being as 113 to 216. This great frequency is not surprising, consideration being had to the greater exposure to the producing causes of luxation incident to this the most active period of life, and to the fact, as before established, of the comparatively common occurrence of this particular displacement. But we find also, as a 2d deduction from these tables, that as life declines the proportionate frequency of this increases; thus, between 45 and 55 years, out of 101 dislocations, 73 were of the shoulder; between 55 and 70, of 129 dislocations, 101 were of the shoulder; and beyond 70, of 35 luxations, 30 were at this articulation. It is presumable that the increasing susceptibility to this form of displacement is due to the lessening power of the muscles which pass from the head of the humerus to the scapula, and which are certainly the efficacious agents of the retention of the humerus in its normal relations with the scapula. As might have been anticipated from the difference in the occupations and habits of the sexes, the male is infinitely more liable to dislocation of the shoulder than the female, the proportion in these cases being as 223 of the former to 87 of the latter. The number varies also in the different seasons; thus of 320 cases, 80 occurred in the spring, 67 in the autumn, 69 in the summer, and 104 in the winter.

Mr. Callaway alludes to the vagueness and confusion which exist with reference to the *nomenclature* of the varieties of this accident; and in order to simplify and clarify this part of the subject, he speaks of dislocations of the head of the humerus, as being either *anterior or posterior* relatively to a line passing from the acromion process downwards, through the centre of the glenoid cavity, and continued along the scapular head of the triceps muscle; these

chief divisions are made to comprise all the varieties, as follows: the *anterior* includes the axillary, the sub-scapular, and the subclavicular; the *posterior*, the subspinous. The comparative weakness of the lower side of the capsular ligament, and the direction impressed upon the head of the humerus by the most fruitful cause of its dislocation, falls upon the outstretched arm, account, as Mr. Callaway mentions, for the more frequent displacement below the glenoid cavity; while the natural inclination of the shoulder forwards disposes the head of the bone, when thrown from its socket, to fall anteriorly rather than behind the central line of the axilla. Of course, however, a direction will be assumed in accordance with the line of action of the dislocating force, thus determining the particular situation which the bone will occupy. We think that Mr. Callaway has acted wisely in admitting only the limited number of special displacements, instead of the long array of conceivable luxations of some of the French surgeons, and of which he presents a tabular arrangement quoted from different authors.

The points of chief interest in the author's remarks upon these dislocations have reference to the diagnosis of those cases in which the head of the humerus has fallen below the glenoid cavity. It has been very generally taught that in these the arm is always lengthened, the measurement being made from the acromion process to the condyles of the humerus. Mr. Callaway shows the incorrectness of this assertion, and explains its fallacy by the aid of a diagram. The head of the arm-bone either rests "against the anterior costa of the scapula, and towards the ribs, that is, in the axilla, or it may have been driven among the fibres of the subscapular muscle, lying almost in the subscapular fossa, while the neck is embraced by some of the fibres of the muscle. The former is that species of dislocation in which there is lenthgening of the arm, and which is so easily reduced; while in the latter, the lengthening is less marked, often absent, and the difficulty of reduction greater"—p. 108. And the truth of these statements may be appreciated by supposing a perpendicular line dropped from the point of the acromion; if the head of the bone fall without this line, of course the distance of the condyles from the acromion will be increased; if within, the distance will be diminished. The first category will apply to all the dislocations *into the axilla* of Mr. Callaway's division; because even if the head of the humerus should fall *within* this line, owing to the obliquity of the direction of the inferior costa of the scapula, it will still be so much farther removed from the acromion process as to verify the assertion; the second proposition will apply to the *subscapular* dislocations of Mr. Callaway. The mere determination of the length of the arm will not, therefore, characterize this accident, since it may be shortened in a dislocation as well as in a fracture. But the author lays down another means of diagnosis which promises to be more certain. He says, p. 109, "if the vertical circumference of the affected shoulder, *i. e.*, from its top to the anterior fold of the axilla, be measured and compared with the sound one (usually about 18½ inches), a great increase of about two inches will be found; *this is an invariable concomitant*, for the head of the bone, go where it will, must distend and displace parts, augmenting the depth of the shoulder and the breadth of the base of the axilla."

Mr. Callaway alludes to the observations of Dupuytren, Guérin and Dr. R. W. Smith, on congenital dislocations of the shoulder. We shall not further notice this point, having so recently presented to the readers of the Journal an abstract of the contents of Dr. Smith's volume.

The author passes in review the various modes of reducing the luxation of the head of the humerus from its false position below the glenoid cavity; but we need not review them here. Several cases of the accident are also adduced.

His remarks on the *sub-clavicular* and the *sub-spinous* dislocations are brief, but sensible.

With respect to the attempt to reduce a long-standing dislocation of the head of the humerus, Mr. Callaway briefly glances at the conflicting opinions and experiences upon this subject, and then expresses himself in the following judicious manner: "The circumstances which would deter me from any attempts at reduction would be, first, *the lapse of ninety days;* the patient having a tolerable use of his arm; the formation of bony deposit about the head of the bone assisting in the formation of a new joint; the history of previous inflammation concomitant with the injury, which would make all the parts adherent, and, perhaps, the muscular fibre soft; a rigid condition of his arteries; and, lastly, obscurity or obliteration of the glenoid cavity."

We are much surprised at the meagreness of this portion of the chapter, considering the importance of the question at issue, and the abundance of materials to illustrate and substantiate the true doctrine concerning it. The condition of the head of the bone and of the surrounding soft parts, in an old dislocation, should have been described and illustrated by cases, with or without drawings; the obstacles to its reduction should have been stated, together with the advantages and disadvantages of the proceeding; the dangers attending the attempts at restoration, with the fruits of experience in unsuccessful and fatal as well as in fortunate instances; and the degree of motion and of usefulness of the member in successful cases—all these facts should have been dwelt upon, and the chapter would have been a very valuable portion of the volume.

The author concludes this chapter with a notice of the complications of dislocation of the shoulder, and with the details of an interesting case of this accident, which was attended by "total loss of the motor and sensatory influence of the median and ulnar nerves;" the luxation was reduced after the lapse of seven weeks, and by the diligent use of proper remedies the patient ultimately, after many months, recovered perfectly.

"Injuries to the longer head of the biceps" furnish the author with a subject for the succeeding chapter. He thinks that the accident, which is usually considered to be a partial dislocation of the shoulder forwards, is really either a *dislocation or a rupture of the long tendon of the biceps muscle.*

He first reviews the history of the origin and progress of our knowledge upon this interesting point, which has attracted the attention of some eminent surgeons, and then sums up the diagnostic appearances of each of these conditions of the tendon.

Rupture of the tendon usually takes place, it seems, in the decline of life, when the nutrition and consequently the tenacity of the tissues have begun to fail. The point at which it commonly occurs is about midway between the glenoid cavity and the anatomical neck of the humerus. If the separation take place within the groove, there is generally considerable effusion into the joint, and a marked retraction of the lower portion of the tendon towards the belly of the muscle, while the muscle itself swells in consequence, as is well illustrated in the drawing appended to the text, p. 148. But when the rupture has occurred nearer to the glenoid cavity, the retraction is rendered inconsiderable by the connections existing between the tendon and the cellular tissue of the capsule and the groove. In either case, the capsule of the joint is but slightly, if at all, ruptured. In the cases of *dislocation*, the tendon was thrown inwards and to the lower part of the joint in three, upon the greater and lesser tuberosities respectively in the other two. There is more pain and inflammation of the joint, and greater loss of muscular power in this than in the other accident, because the displaced tendon plays the part of a foreign

body, as of a loose cartilage, in the cavity, and, of course, the usual changes produced upon serous surfaces by continued irritation are present. In both conditions of the tendon, there is lateral and posterior flattening of the shoulder, and prominence of the head of the bone anteriorly, thus inducing the belief in the existence of a partial dislocation forwards. As we have hitherto found fault with Mr. Callaway for not having described the post-mortem appearances of the accidents of which he treats, we will do him the justice to quote his remarks upon the changes found after death, in those cases in which the tendon had been ruptured. He says, p. 150, "The tendon is found usually in one of three conditions: firstly, lying loose in the joint, and presenting a fringed cellular edge; secondly, closely adherent to the capsule of the joint; or, thirdly, inseparably attached to the neck of the humerus and its bicipital groove. In both these latter cases the capsule of the joint is much thickened, as though it had become strengthened by the fibres of the tendon. The morbid changes which take place in and about the articulation, as a consequence of the injury, appear to be two: first, a coalescing of the capsule and synovial cavity of the joint with the bursa between the capsule and the acromion, or, to speak more correctly, the formation of a false joint between the head of the humerus and the under surface of the acromion; secondly, in soft, oily, and caseous bones, in which there is deficiency of phosphatic deposit, a change takes place in the head of the bone, the anatomical neck slides slightly downwards (chiefly in old people), and assumes a rather more lateral aspect than is normal, while the inner shell of the bone passes upwards and inwards, and penetrates the cancelli. This, I think there can be no doubt, is the result of the upward pressure against the acromion process. In Sir A. Cooper's case, the tendon is said to have united. With every possible submission to so high authority, I think he must have meant that it had united with the capsule of the joint. The deltoid muscle is not so much affected by the change in the joint as would be expected: occasionally it is slightly atrophied, but the muscle soon again recovers its size and tone. Should there appear to be much wasting of it, the surgeon would then have to decide upon the probability of its dependence upon some injury to the posterior circumflex nerve: in this case, sensation over the posterior fold of the axilla, and over the insertion of the deltoid, would be much impaired."

The treatment in these cases consists in preserving the shoulder at rest, in combatting inflammation, and, after a proper time, instituting passive motion. The best position for the shoulder is that which it assumes in Velpeau's method of treating fractures of the clavicle, the hand being placed upon the sound shoulder and fixed there. Mr. Callaway adduces several instances of the accident.

The last subject to which the author directs his attention is that of *fractures* of the *head* of the *humerus*. These he divides into fracture of the surgical and of the anatomical necks, and of either or both of the tuberosities. We do not find that he has added anything to our information on this subject, and shall therefore conclude our notice of his treatise.

In closing the volume, we cannot but regret that Mr. Callaway had not bestowed more care and labour upon it; for we are sure, from the degree of capability which it really evinces on the part of the author, that he might easily have rendered it of greater and more enduring value. Our readers must have observed, in the quotations which we have made from it, many inaccuracies and inelegancies of style and diction, and have inferred that it often lacks the evidence of extended and rigorous study—such as is alone admissible at the present day. F. W. S.

ART. XIX.—*Medico-Chirurgical Transactions. Published by the Royal Medical and Chirurgical Society of London. Volume the Thirty-third.* 8vo. pp. 360. London, 1850.

THE first paper contained in the present volume of Transactions is the account of a "*Case of a Foreign Body impacted in the orifice of the Third Branch of the Right Bronchus,*" by John Gregory Forbes. The case is preceded by some interesting remarks on the propriety of attempting the removal of a foreign body so impacted.

Upon this question, much difference of opinion exists among surgeons.

"On the one hand, it is alleged that the introduction of instruments within the air-passages is a difficult and dangerous proceeding; that there is much uncertainty, from the irritation to which they give rise, whether they can be successfully employed; and that as, in some instances, the offending substance has been loosened and ejected, it is more prudent not to interfere; on the other, it is urged that if the natural powers fail in effecting so desirable a result as its early expulsion from its situation, the symptoms which follow are usually so formidable, and the life of the patient is placed in such jeopardy, that in the absence of any special circumstances forbidding an operation, its extraction should be attempted."

The truth of the grounds upon which this latter opinion is founded is admitted by Mr. Forbes. But to decide the question, he considers that more extended experience, derived from individual cases, is necessary, as the only means of determining whether the dangers resulting from the efforts made to extract the foreign body are greater than those to which the patient is exposed, if it is allowed to remain undisturbed in its position, and the powers of nature are trusted to for its expulsion.

"The symptoms," Mr. F. remarks, "induced by the impaction of a foreign body in a bronchial tube differ materially from those which arise when it moves up and down in the air-passages during the act of respiration. In the latter case, the continued laryngeal irritation gives rise to repeated attacks of convulsive cough and threatened suffocation; in the former, these are not observed, but the symptoms are then referable to the impediment offered to the ingress and egress of the air on one side of the chest, to which succeed inflammation of the bronchial membrane, and of the parenchymatous tissue of the lung, entirely, or in part, and sometimes of the pleura itself."

"The fatality which ensues from a foreign body remaining in the air-passages led Mr. Proctor to remark, 'that if not removed, it tends, sooner or later, to the one inevitable consequence—the destruction of the patient.' In looking over, however, the histories of published cases in which it was fixed in a bronchus, we find that in a small proportion it was coughed out without having produced any very serious and irremediable mischief, and a rare case is recorded by Royer Collard, in which no thoracic disease appeared to have been induced."

"In other cases on record, inflammation and suppuration took place, by which the foreign body was loosened and expelled, and even under this complication some patients recovered. But such favourable results cannot be anticipated with any confidence. In by far the larger proportion of cases of this description which have been recorded, much suffering was endured, severe pulmonary inflammation was set up, and though life was in some instances prolonged for several years, the patients at last succumbed, worn out by the continued irritation and hectic, before or shortly after they have been unburdened of the cause of their misery."

In deciding upon the question of opening the trachea and endeavouring to seize the foreign body with the forceps, many circumstances call for attention.

A substance of small size and light weight, with a smooth surface and soft texture, is less likely to cause inflammation, and there is more probability of its being coughed out than if it happens to be of an opposite nature. The age of the patient also and the previous state of his health are of importance.

In young children, the small size and delicate structure of the parts to be interfered with may prevent the possibility of the operation being effected; and in older persons, who have suffered from diseased lungs or other exhausting maladies, the prospect of a successful issue may be so slight as to forbid the operation. Neither of these objections, however, apply to the case of a healthy adult; and it may be well, therefore, Mr. F. concludes, to endeavour without delay to rid him of such a fruitful source of danger.

"In support," he remarks, "of the practicability of the operation, it is sufficient to refer to the two cases mentioned by the late Mr. Liston, in his 'Practical Surgery,' the only instances, as far as I am aware, on record, in which it was successfully accomplished." "In neither case was the proceeding attended with much difficulty, and the patients recovered."

"We have, however, high authority for stating that, in some cases, serious and insurmountable obstacles do present themselves to the completion of the operation. In the case recorded by Sir Benjamin Brodie, in the twenty-sixth volume of the Transactions of this Society, though attempts were made on two separate occasions to extract a coin from the right bronchus, through an opening in the trachea, the convulsive cough was so great on the introduction of the forceps that it could not be felt, and it became necessary to desist. The same occurred in a case lately published by Mr. Solly, and a similar one is mentioned by Mr. Porter, as having occurred in the person of a boy five years of age, in whose right bronchus a bean had been lodged. Several attempts were made to remove it, but without success. The presence of the forceps in the trachea produced the most intense distress, and the operation was abandoned. The bean was afterwards moved by a probe, and coughed out through the wound."

Another argument against the operation is the difficulty of determining the exact position of the foreign body.

"This," says Mr. F. "is undoubtedly attended with much uncertainty, and it becomes a matter of great moment to decide the question as to the nature of the evidence upon which the attempt to extract it would be justified. The auscultatory signs, though open to fallacy from the existence of previous disease in the lungs, are the chief guides. In the case now to be related, a persistent expiratory sound at first, a 'cooing rhonchus,' and degenerating into a peculiar 'whiff' or 'puff,' heard most clearly over the right bronchus, together with the pain experienced in that situation, and the consequent voluntary efforts made by the patient to expel it from thence, were the symptoms upon which the chief reliance was placed as indicative of its presence."

"Supposing then the diagnosis to be as clearly established as it can be under such circumstances, and from the alleged nature of the foreign body there is small probability of its being ejected, Mr. F. cannot help feeling that an early attempt might be made to extract it by the usual mode. Although on the first trial it may not be possible to seize or even to feel it, a second may be more successful, and if it cannot be extracted, it may be displaced sufficiently to allow of its expulsion, as occurred in Mr. Porter's case already quoted. But suppose, as has happened, every effort to remove it should fail, further experience is wanted to prove that the operation itself is attended with that amount of risk which would warrant the surgeon in depriving the patient of the prospect it affords of immediate and most probably permanent relief. It is the opinion of Sir Benjamin Brodie that under all circumstances the trachea should be opened; and Dr. Mason Warren, of Boston, states 'that if a case of the kind occurred to him, he should at once perform the operation of tracheotomy, and by a free use of ether attempt to allay the irritability of the air-passages, so as to allow a more easy exploration by instruments than is generally afforded

in the natural state.' He admits at the same time that the judgment of the surgeon must be determined by the circumstances of the particular case."

The case related by Mr. F. is that of a female 46 years of age, in whose trachea a portion of bone covered with cartilage entered whilst she was eating some soup. The operation was not considered advisable from the uncertainty as to the exact position of the foreign body, and from the symptoms not being of that urgent nature which called for immediate interference. The patient, however, continued to grow worse, and she died at the end of the twenty-sixth day after that on which the bone had entered the trachea. On the examination of the body, there was found in the right bronchus, at the distance of an inch and a half from the point of bifurcation of the trachea, and five inches and a half from the lower border of the thyroid body, a small piece of bone, weighing when dry 3½ grains, having a concave smooth facet, and a convex rough one, and one very sharp edge; its breadth being three-eighths, and its length a quarter of an inch. It was firmly impacted in the orifice of the third branch from the bronchus, which passed into the middle lobe. The surrounding lung presented indications of intense inflammation.

"The lower two-thirds of the right lung were of an ashy slate colour, of dense consistence, very offensive odour, and infiltrated with a purulent fluid. Small portions of it sank in water, and when washed it had much the appearance of coarse dark sponge, though no distinct cavities containing pus were visible."

In this case, for the reasons mentioned, it was judged inexpedient to attempt the extraction of the foreign body by an operation; Dr. F. admits, however, that "possibly a greater amount of experience might have modified this opinion."

"It is certain," he adds, "that had it been attempted, some difficulty would have arisen from the depth to which the piece of bone had penetrated; being at least four inches from the top of the sternum. Two bronchial branches had been passed by it, into the first of which, from its size, it is more than probable that the point of the forceps would have entered, and this might have given rise to such distress as to have baffled any further proceedings."

The unusual course of the carotid artery, bringing it, in this case, in proximity to the seat of incisions, would have exposed it to injury.

"With due caution," Mr. F. remarks, "it would not probably have been wounded by the knife, but it might have been bruised and injured by the forceps. Though such a deviation from its course could not be looked for in other patients, it nevertheless deserves attention, and fully bears out the remark of Mr. South, 'that the varieties of the vessels in the neck render a careful inspection necessary before proceeding to the operation.'"

The second paper is "*On the Section of the Tendo-Achillis in some cases of Fracture of the Bones of the Leg*," by Campbell De Morgan.

The subcutaneous division of tendons for the removal of difficulties which sometimes occur in the treatment of fractures, especially of the bones of the leg, is an operation which has, it appears, been successfully put in practice by the surgeons of Continental Europe, and two cases of fracture of both bones of the leg are detailed in the paper before us, the first by Mr. Shaw, and the second by Mr. De Morgan, in which the division of the tendo-achillis was attended with complete success in suspending the violent spasmodic action of the muscles, by which the permanent reduction of the fractures was prevented and great suffering caused to the patients.

"There can be no question," remarks Mr. De Morgan, "as to the twofold benefit derived, in these cases, from this simple operation, which, while it rarely

fails in effecting the object for which it is performed, is not often attended with injurious consequences. The first and most important benefit was the immediate cessation of all opposition to the replacement of the fractured bones, and to their retention in their proper positions. After the division of the tendon, the simple and ordinary apparatus was sufficient for this purpose; whereas all the means adopted before had induced spasm, and increased only the evil they were intended to remedy. The relief given to the sufferings of the patients, was, however, not less immediate, and was hardly less important. The pain and the restlessness, which before had been constant, at once subsided; and the spasms which took place, not in the muscles of the calf only, but in all the muscles of the leg, and in Mr. Shaw's case, in those of the thigh also—were at once allayed. Nor did they, in either instance, return during the remainder of the treatment."

"The cases of fracture of the tibia and fibula in which the surgeon fails, by ordinary treatment, to remove or obviate the difficulties incidental to such injuries, and in which, therefore, this operation might naturally suggest itself, are not of ordinary occurrence. But it may still be a question whether the division of the tendo-achillis, or of other tendons, might not be advisable. The present state of our knowledge with regard to the results of tenotomy in general, is, perhaps, not sufficiently exact to justify a recommendation of the operation in such cases. As a means of relieving spasm consequent upon local injury, the operation has been too rarely performed to allow of any conclusion on the subject. If, however, it should be found that results as satisfactory as were obtained in the cases now brought forward might be calculated upon in those of less severity, but in which the means used by the surgeon were counteracted, or prolonged pain and restlessness were present in consequence of spasmodic contraction of the muscles, this operation would prove a valuable adjuvant to the ordinary treatment."

The next paper is "*On the Identity or Non-Identity of the Specific Cause of Typhoid, Typhus, and Relapsing Fevers,*" by William Jenner, M. D.

The facts set forth by Dr. Jenner are intended to prove not only that the three diseases just mentioned are distinct affections, in their symptoms, course and lesions, but are each produced by a distinct specific cause.

After presenting the diagnostic symptoms of the three fevers to which the paper refers, a series of tables are presented, showing the number of cases admitted into the London Hospital, during each month of the years 1847, 1848, and 1849, with *all* the cases in which two or more persons suffering from typhus, typhoid, and relapsing fever, were admitted from the same house; the age, sex, degree of intimacy of the individuals, and the nature of the fever under which they laboured; with a view of showing that each of those diseases was derived from its own distinct focus of infection.

With the disease denominated *relapsing fever* by Dr. Jenner, we confess that we are not familiar, and lest our readers may be so likewise, we present his account of its diagnostic symptoms. These are

"Sudden rigours, headache, skin hot and dry, tongue white, urine high-coloured, bowels regular, occasional or frequent vomiting, loss of appetite, absence of abnormal physical abdominal signs. In severe cases, jaundice, profuse sweating on about the seventh day, followed by apparent restoration to health; on from the fifth to the eighth day, reckoning from the apparent convalescence, repetition of the original symptoms, with greater or less severity; again terminating in sweating, and then permanent convalescence."

After a short recapitulation of the facts exhibited by the tables, Dr. Jenner remarks:—

"The foregoing tables demonstrate that in every month of 1848 and 1849, several cases of typhoid fever and typhus fever were admitted; that the epidemic constitution favourable to the spread of typhus fever had little influence in diminishing or increasing the absolute number of cases of typhoid fever; thus,

during the first eight months of 1848, sixty cases of typhoid fever, and two hundred and ninety-two cases of typhus fever were admitted into the hospital; and during the corresponding months of 1849, seventy cases of typhoid fever, and one hundred and twenty-one only of typhus fever; so that, while the cases of the latter disease had diminished nearly three-fifths, the cases of the former had increased only one-sixth.

"As some writers have asserted that there are certain transition cases to be observed, marking the passage of one epidemic constitution into another, I ought here to remark that, with reference to the characteristic peculiarities of typhoid fever, and the rose spots in particular, they were as well marked in the autumn of 1846 as during the epidemic of relapsing fever in 1847, or of typhus in the autumns of 1847 and 1848, or as they are at the present moment. The spots have undergone no change; have experienced no modification; although the epidemic constitution, on which the difference in the rash is said to depend, must have varied more than once. The same is true of the mulberry rash of typhus fever. It presented, in the few cases observed in 1846, the same characters as during the epidemic of 1847–48; the same characters during that epidemic as at the present moment, when the number of the cases of typhoid fever bear to that of typhus fever the proportion of three to one.

"So with regard to the intestinal lesion. In all the fatal cases examined in the three years referred to in which the mulberry rash existed during life, Peyer's patches and the mesenteric glands were absolutely free from disease; and in every fatal case in which rose spots were noted during life, serious lesion of the agminated and mesenteric glands was discovered after death. The lesion, like the eruption, was quite unmodified by that epidemic constitution which favoured the spread of typhus fever in 1847 and 1848; for example, though the constitution of the autumn of this year (1849) favoured the spread of typhoid fever, yet, when a man and his wife were admitted in August with typhus fever, the mulberry rash preserved its characteristics unmodified, and when they died, as both did, Peyer's patches and the mesenteric glands were found to possess their normal anatomical characters.

"There are a few cases included in the preceding tables, which may here be more fully adverted to with advantage. In November and December, 1848, forty-eight cases of typhus fever, and twenty of typhoid fever, were admitted into the hospital, *i. e.*, nearly one-third of the patients were affected with typhoid fever. At the latter end of October, 1848, a boy, fourteen years of age, went to reside with a family named Mitchell, in Adden Place, St. Pancras. The Mitchell's were at that time in health. The boy left his own home because his brothers were down with the fever. The lad was, early in November, admitted into the hospital, suffering from typhus fever. Early, also, in the same month, the man Mitchell, aged twenty-nine years, with whom the boy lodged, the man's daughter, aged seven years, and a female lodger, aged twenty-two, were also admitted with typhus fever. The other members of Mitchell's family, expelled from Adden Place, then removed to 21 Hertford Street, at least a mile from their former residence. At this time, so far as I could learn by personal inquiry, there was no fever in Hertford Street, and *certainly* none in the house in which they had taken up their residence. On November 22d, the two sisters of Mitchell's wife, aged respectively fourteen and twenty-two, who had removed from Adden Place with Mrs. Mitchell and her infant, aged four years, were received into the hospital, both suffering from typhus fever. On December 8th, the landlady of 21 Hertford Street, aged 60, was admitted with very severe typhus fever, and on December 20th the son-in-law of the landlady was also admitted with the same disease. I subsequently saw Mitchell's infant, aged four years, at its own home; it was similarly but very slightly affected. The only member of the family that escaped was the woman Mitchell, and she had had 'spotted typhus fever,' according to her own voluntary statement, some few years before. Here was a group of persons, whose ages varied from four to sixty years, and whose constitutional predispositions also must have varied infinitely, for there were several of them unconnected by blood, exposed to the poison of typhus fever (introduced among them by the lad aged fourteen), at the same time when typhus fever was only twice as prevalent as typhoid

fever, what was the result? Did one-third of the eight have typhoid fever? No, not one.

"In December, 1848, ten cases of typhus fever, and seven of typhoid fever were admitted into the hospital. Five cases came from one house; these five individuals varied in age from seven to fifty-two years; their degree of relationship was grandfather, daughter, and three grandchildren. All five had well-marked mulberry rash, were unequivocally affected with typhus fever. It is evident that, as at this time the number of those admitted with the two diseases was pretty nearly equal, two of these five ought, if the cause of the two diseases is identical, to have had typhoid fever, with rose spots.

"In March and April, 1849, eight cases of typhoid fever, and thirty-one cases of typhus fever, were admitted into the hospital. Between the 19th of March and the 10th of April, eight persons were brought to the hospital from one room, suffering from fever. Did one-fourth present the rose spots of typhoid fever? No, not one—all had well-marked typhus fever. In September, October, and November, 1849, eighteen cases of typhus fever, and forty-eight cases of typhoid fever, were received into the hospital, *i. e.*, nearly three times as many cases of typhoid fever as of typhus fever. During the same three months, a mother and her two daughters, aged respectively fifty-four, sixteen, and thirteen; a husband and wife, aged forty and forty-seven; a husband, wife, child, and lodger, aged severally forty, thirty-nine, twelve, and forty—*i. e.*, in all nine persons, were brought from three localities. At least five ought to have had typhoid fever, if that affection and typhus fever are due to the same specific cause. Was it so? No, in every case, the persons secondarily affected, whatever their age or sex, had the same disease as the individual from whom they caught it.

"In April, 1849, a girl suffering from relapsing fever was brought from a house in Fulham—in a few days her brother and two sisters were admitted into the hospital. Did either of the three latter have typhus fever, which was the prevailing disease, or typhoid fever, which was then also very much more widely spread than relapsing fever? No; all had the same fever."

"Before concluding, it will be well, summarily, to repeat that in 1848 one-fourth of the cases admitted into the hospital had typhoid fever; while from thirty-four foci of typhus fever, yielding one hundred and one cases, there was brought to the hospital once only a case of typhus fever and a case of typhoid fever from the same house; and during the same time, among five localities, affording nine cases of typhoid fever, one locality only yielded a case of typhoid and one of typhus fever. That in 1849, although eighteen foci of typhus yielded fifty-one cases, and four foci of typhoid fever afforded ten cases, not a single example of the two diseases being received into the hospital from one house occurred. With reference to the exceptional case, I must observe that for exceptional cases to be of any value in proving the identity of typhus fever and typhoid fever, they must be met with more frequently than similar exceptional cases are met with in diseases having a specific cause universally acknowledged to be different.

"Now, the following facts prove that, with respect to measles, scarlet fever, and typhus fever, such exceptional cases are as frequent as with respect to typhoid and typhus fevers. During the last three years, I have seen a case of typhus fever brought into the hospital from a house in which all the children were suffering from measles; another case of typhus fever brought from a house in which the children had scarlet fever; a girl admitted with scarlet fever, who had been on terms of intimacy with another girl admitted shortly before with typhoid fever, and in these cases no direct contagion for the diseases under which the patients laboured could be traced. It is also important to observe that the cases of scarlet fever admitted during the time specified were nothing like so numerous as the cases of typhus fever or of typhoid fever.

"The facts contained in this paper appear to me to prove, incontestably, so far as induction can prove the point, that the specific causes of typhus and typhoid fevers are absolutely different from each other, and to render in the highest degree probable that the specific cause of relapsing fever is different

from that of either of the former two. I have elsewhere attempted to prove that the course, the symptoms, the lesions, and the sequelæ of typhoid are typhus, are different, and as relapsing fever differs from both too widely, so far as symptoms and course are concerned, to be confounded with them, it follows that if small-pox be separated from measles, and both from scarlet fever, because their course, symptoms, lesions, and specific cause are different, so must, for like reasons, typhoid fever, typhus fever, and relapsing fever, be separated from each other, and regarded as absolutely distinct diseases, not merely varieties of each other, as are scarlatina anginosa and scarlatina sine eruptione, but distinct species of disease, as are scarlatina, rubeola, and variola."

Next in order are the histories of two cases of "*Complete intestinal obstruction, arising from disease of the sigmoid flexure of the colon and the rectum, in which the descending colon was successfully opened in the loin;*" the one related by Frederick Field, and the other by Josiah Clarkson.

The first case occurred in a stout male, thirty-three years of age. He had been affected for many months with derangement of the bowels—marked by occasional pains, tenesmus, and constipation—scanty stools, voided with difficulty—flatulence—distension of belly—with weight and uneasiness at the stomach after eating. These symptoms, after a time, increased in violence. They were, at first, temporarily relieved by purgatives. Vomiting after meals became added to his other symptoms. The patient was able to continue his employment, that of coach-axle forger, until within four days of the visit of Mr. Field, when the action of the bowels entirely ceased; all his symptoms became greatly aggravated, and he took repeated doses of brandy and castor oil, with the only effect of adding to his sufferings and producing vomiting. When seen by Mr. F., the abdomen was greatly distended and tympanitic, pain in the region of the transverse colon, increased by pressure; the pain was of a twisting character and shot down to the umbilicus; region of transverse colon somewhat bulging. The pain was aggravated in violent paroxysms, accompanied with strong tenesmus, continuing for about a minute. He vomited almost everything he took. Pulse somewhat increased in frequency, full, strong, and compressible; tongue coated with a thick pale fur, and not dry—much thirst.

The leading symptoms were but partially abated under the use of the various remedies that were from time to time employed. In attempting to relieve the bowels by injections thrown into the colon, the pipe could be introduced but about eight inches, its further passage being at this point prevented by an obstruction. At the end of twelve days, the condition of the patient becoming much worse—with incessant vomiting of a light-brown matter with a strong fæcal odour, no evacuation per anum having occurred for sixteen days—all further efforts to prolong life by medical means were considered useless, and the operation employed by Amussat for opening the descending colon was proposed to the patient, and, with his consent, performed.

"The patient being extended on a bed with his face downwards, a transverse incision was made on the left loin, beginning at the ridge which marks the external margin of the erector spinal muscle (about two inches from the spine), and carried directly outwards. This incision was five and a half inches long, and was situated a finger's-breadth above the crest of the ileum; it passed through the skin and fat nearly one inch in depth down to the latissimus dorsi muscle. This muscle, and the quadratus lumborum were now divided to the extent of the incision of the skin, and a layer of fat, bounded on the inside by the external margin of the erector spinæ muscle, was brought into view. On dissecting this away to the depth of about half an inch, a thin transparent membrane was exposed. From the appearance of this membrane, which it

was conceived might be the intestine, it was thought advisable to pass sutures through it to retain it in its position, and subsequently to affix it to the edges of the wound. However, on penetrating it with the knife, a mass of soft granular fat started through the incision. A very large quantity of this fat was cautiously dissected away, and the finger was then introduced to search for the bowel, but no precise indication of it could be felt; the finger, when pressed upwards, rested on the lower part of the left kidney, while downwards it came in contact with the inner margin of the crest of the ileum. The wound being now of considerable depth, it was necessary to proceed with great caution, and clear away the fat little by little, which proceeding, from the looseness of the nature of the fat, was rather difficult, and occupied some time. At length, the bowel was brought into view, at the depth of about four inches; it was highly vascular, and having been cleared of fat, sutures were passed through it and held by assistants. An incision half an inch in length was made into the bowel, and an immense quantity of light-coloured fluid fæces immediately escaped. The patient had been vomiting similar fæcal matter during nearly the whole of the operation, but this vomiting now entirely ceased, and he was relieved of all his symptoms. The opening in the bowel was fastened by sutures to the skin; a large bread poultice was placed over the wound, and retained by a bandage passed round the body, the patient being enjoined to lie on the left side to facilitate the escape of the fæces. Scarcely two ounces of blood were lost during the operation."

The operation was performed on the 15th of May. From that time, the patient gradually amended—the wound gave little or no trouble; through it the fæces were regularly passed until the 22d, when fæces, preceded by flatus, were passed per anum. Subsequently, however, they were only passed from the artificial opening. Three or four stools in the twenty-four hours thus occurred—he had a short notice of them by a slightly painful sensation immediately preceding the evacuation. The fæces passed through the wound with great facility; the opening into the bowel was closed, in the interval of the evacuation, by the apposition of the sides of the wound in the integuments, so as temporarily to shut up the artificial opening.

From the 3d of June, Mr. F. remarks,

"The patient rapidly recovered his strength, nutrition proceeded perfectly, and he acquired his usual bulky form; the wound contracted to an aperture in the centre of the incision no larger than would admit an ordinary goose-quill, through which the fæces passed with facility. He was now able to resume his laborious employment of coach-axle forger, in which great and rapid muscular exertion was constantly required in lifting and striking heavy weights of iron; and in which also he was obliged to keep time with two other 'strikers' who worked under him at the same forge.

"He thus continued from midsummer, 1845, to Christmas, 1846, during which period I have heard him remark," says Mr. F., "that he had required as great weight and could do as much work as at any time in his life. There was nothing in his appearance and manner that would convey the most remote idea of his being the subject of so remarkable a deviation from nature as an artificial anus. Had his occupation been a light one, and his habits temperate and regular, he might have passed through life with little inconvenience from the artificial anus. The only interruption to perfect health which he suffered occasionally arose from temporary constipation, caused, it is probable, by tendency to contraction in the aperture, and probably also by the fæces becoming somewhat more consistent than usual."

The constitution was quickly remedied by passing a small-sized bone clyster pipe into the artificial opening, and injecting through this about a pint or more of warm water—by this means, the passage was dilated to the required diameter, and the fæces also were softened so as to admit of their easy evacuation. After a period, however, the tendency to contraction of the artificial

passage diminished, and the constipation was then relieved by a small dose of castor oil.

In the latter part of 1847, the patient applied to Mr. F. in consequence of severe pain in the right hypochondrium—pain and uneasiness in the same situation he had frequently experienced for some months—leeches and a blister were applied, and the same treatment was subsequently directed by Dr. Fletcher and Mr. Carter for a renewed attack of the same pain.

"The pain, however, still continued, and in time extended in a sub-acute form over the abdomen generally. His appetite now began to fail; he had frequent vomiting; the urine became scanty, and ascites set in, and notwithstanding a steady perseverance in medical treatment, he became rapidly worse and much emaciated. The abdomen became greatly distended, and at length between three and four gallons of fluid were drawn off by tapping. The fluid, however, reaccumulated; he was troubled with constant vomiting of large quantities of depraved bile, and had frequent diarrhœa; his system became greatly exhausted, and he died on the 25th of February, 1848; being three months from the commencement of his last illness, and *a year and nine months* from the time of the operation."

"*Examination forty-eight hours after death.* Body greatly emaciated; lungs healthy; very slight old adhesions of the pleura on the left side; heart and large vessels healthy. The parietal peritoneum opaque, thickened, and generally covered with lymph; the convolutions of the intestines adherent together, and covered with lymph; spleen healthy; kidneys slightly congested; the liver much thickened and granular in texture; anterior margin of liver greatly rounded, and adherent to the peritoneum by the whole of its upper surface. The strictured portion of the intestine was situated at the sigmoid flexure; it was about four inches in length, and three-quarters of an inch in diameter, throughout the whole extent of the contracted part. When cut into, the whole of this portion was found to be filled with a plug of apparently firmly coagulated lymph, which entirely obliterated the canal.

"Having placed the diseased portion of intestine along with other morbid specimens in a jar of spirits of wine, for further examination, I found after it had remained some time that the plug had become broken up and detached from the bowel. On scraping the thick layer which remained from the bowel, the coats of the latter appeared contracted and slightly thickened, but were continuous; even the contracted portion of the intestine seemed to be formed of successive layers of lymph or fibrine, or inspissated cancers. It exactly resembled the deposits which take place in the larynx in acute laryngitis."

The second case of intestinal obstruction occurred in a robust, healthy-looking female twenty-one years of age. Her symptoms were first, pain at the epigastrium, flatulence, nausea, and obstinate costiveness; to these were soon added headache, thirst, and general febrile disturbance; then pain about the umbilicus and left hypochondrium, increased upon pressure; slight and even distension of the abdomen; tympanitis; constant nausea, but no vomiting; a pulse of one hundred and ten, full and strong; flushed and somewhat anxious countenance; dry and hot skin; copious flow of high-coloured urine. The bowels were attempted to be relieved by active cathartics and injections. The colon-pipe passed up easily a distance of about six inches, but could not be advanced beyond this point by any manipulation. The general symptoms speedily became aggravated, and began to put on a serious aspect. The pain and distension of the abdomen became such as to cause Mr. C. to fear that peritonitis had commenced.

By leeches, the symptoms were somewhat moderated, but no evacuation could be procured from the abdomen. On the seventh day after that on which she had first came under the care of Mr. C., stercoraceous vomiting having taken place, and all the symptoms of her case having assumed a most

threatening aspect, the operation of Amussat was performed pretty much in the same place and manner as in the preceding case. Upon the division of the fibres of the quadratus lumborum muscle and the aponeurosis of the transversalis muscle beneath it—after the removal of a quantity of loose fat, the intestinalis was reached with very little difficulty, apparently not much distended.

"Four ligatures were passed through the intestine, two of which were fastened to the upper lip of the wound, and two to the lower. The intestine was then divided longitudinally between them, giving exit to a large quantity of fluid fæces; very little blood was lost. The operation lasted twenty minutes, and almost immediately after its completion, the patient expressed herself as being greatly relieved. She was placed in bed on her left side, without anything being applied to the wound."

In two hours afterwards, it was found that the fæcal discharge had been very profuse, and was still continuing. The dirt being removed, a large soft poultice was applied to the wound, and the patient was replaced in bed in the same position as before. The operation had much relieved her, and her condition was in every respect satisfactory.

Without any untoward symptom, the patient steadily improved in her general health, and the wound gradually cicatrized and contracted, the opening in the bowel being of sufficient size to admit the index finger without difficulty, and giving exit to three or four healthy stools daily. On the eighteenth day from the operation, she voided three or four rounded lumps per anum, which at first were supposed to be scybalæ, but upon a careful examination were found to be merely indurated mucus.

In three weeks the patient was able, with a little assistance, to walk down stairs, and soon to take a part in household work. Her appetite became good, digestion was carried on with energy—she quickly regained her usual habit, and even presented some degree of *embonpoint*. Her menstrual periods were regular.

"For several succeeding months she was in a most satisfactory condition, capable of performing the duties and enjoying the pleasures of her situation in life. She was able to walk about the town, and no one meeting her would have supposed for an instant she had been the subject of an operation of this nature. She wore a pad over the orifice supported by a bandage round the belly, and as she had an evacuation only when these were removed, the inconvenience resulting from the situation of the anus was much less than she had expected or Mr. C. had ventured to hope.

"Whenever, as sometimes happened, the fæces were retained for a day or two, or she suffered an aggravation of the pain, which still occasionally troubled her, a dose of aperient medicine or the warm water injection would afford her almost immediate relief. The only difficulty experienced was the tendency to contraction which the opening into the bowel at this time began to exhibit, and which required now and then the use of bougies and other dilating agents.

"At the expiration of ten months, this contraction was becoming the source of very considerable annoyance, as it opposed a serious obstacle to the escape of the contents of the bowels. The evacuations gradually became less frequent, three, four or five days intervening without one, and even then they were only procured by dilating the orifice and administering injections. The pains became more constant and severe, the appetite began to fail, general disturbance of the digestive process followed, producing emaciation and debility."

By the use of sponge tents and other appliances, a great increase in the size of the outlet was obtained; but unfortunately there was no corresponding increase in the quantity of matter evacuated. Notwithstanding every measure that was put in requisition, the bowels refused to discharge their contents, the

emaciation rapidly increased, and the patient eventually died on the evening of the 14th of September, 1847, *having survived the operation nearly fourteen months.*

"*Examination of the body twenty-four hours after death.*—On cutting into the abdomen, about a pint of clear, straw-coloured serum escaped. The parietal peritoneum was of a dark mottled colour, and presented innumerable tubercles, of various sizes, thickly studded over its whole surface. It was also much increased in thickness. The peritoneum covering the intestines was in a similar condition; and from the long-continued inflammatory action of which it had been the seat, the opposed surfaces of the convolution had become so firmly adherent to each other as to be separated only with the greatest difficulty. Adhesions of this character had also been contracted between the transverse colon and the liver, the spleen, and the stomach; on the right side the colon was also connected with the abdominal wall. The whole of these adhesions were remarkably fine and unyielding, almost approaching cartilage in their texture; and they thoroughly incorporated the surfaces of the abdominal viscera in one mass, not to be separated in many places with the scalpel. During life, they must have greatly interfered with the peristaltic action of the bowels. The transverse and descending colon were empty and contracted, but the whole of the small intestines, up to the duodenum, were greatly distended with consistent fæces; the ascending colon also contained some fæces, but in this part they were more fluid in their consistence. The mucous lining of these parts of the alimentary canal was of a dark colour, and presented numerous patches of ulceration. The most healthy portion was some inches above and below the artificial anus.

"A careful dissection of the parts involved in the disease and the operation revealed the following conditions: The obstruction was situated about six inches from the lower termination of the rectum, and on a level with the fundus of the uterus. It consisted of a dense cartilaginous substance, surrounding the intestine in this spot, and completely obliterating its canal. It appeared to have originated externally to or on the outer surface of the bowel, as this latter, at the point of obstruction, was pinched in, as though it had originally been tied with a ligature. This diseased structure was about the size of a pullet's egg, the greater part of it being situated anteriorly, whereby it had pushed the fundus of the uterus forward, producing slight anteversion; it was also firmly connected with this organ. On laying open the bowel, and dividing the growth in a line corresponding with it, it was found that the channel was obliterated for the distance of half an inch, and this occlusion was so complete as even now to prevent the possibility of establishiug a communication between the upper and lower portions of the intestine except by the aid of the knife."

The sixth paper contains a detail of "*Chemical Researches on the Nature and Cause of Cholera,*" by Dr. Robert Dundas Thompson. From an analysis of the blood obtained during the period of the disease marked by rice-water discharges and collapse, it was ascertained that there was a considerable augmentation in its specific gravity. In the ratio of serum to clot, the aberration from health is not great—but this in some measure depends upon the increase in the weight of the serum, as indicated by its specific gravity. The watery portion of the blood is greatly diminished. The consequence fairly deducible from eight observations enumerated in one of the tables given by Dr. Thompson is that,

"In the lymphatic or collapse stage of cholera, the watery portion of the blood has diminished by at least 7 per cent.; so that if we were to consider with some physiologists the total amount of the blood in the human body to approach 22 lbs., it would appear that in the spasmodic cholera, at least 1½ lbs. of the watery part of the blood have been extracted from the fluid and poured into the intestinal canal. This, however, is taking the most favourable view of the circumstances. But, if we estimate the amount in some of these cases where the diminution of fluid in the blood is at a minimum, then the per

centage reduction will reach as high as 13."—"During the prevalence of cholera, a specimen of blood obtained by hemorrhage from the nose was put into Dr. T's. hand by his friend Dr. Pagan. The patient laboured under an affection of the mucous membranes of the air tubes." It is the only specimen of blood which he has hitherto found to assimilate to that of the lymphatic stage of cholera."

From a number of analyses and facts detailed by Dr. T., the conclusion seems legitimate that there is nothing abnormal in the amount of globules, albumen, and fibrine of the blood in cholera; and that the disease, as affecting the blood, consists chiefly in a diminution of water; from other analyses which are given, it is shown that the equilibrium of the saline constituents of the blood are also decidedly disturbed. While there is in the same quantity of blood a larger amount both of earthy and soluble salts, there is a less quantity of the soluble salts in proportion to the earthy ingredients.

"The method of restoring the balance which has been interfered with," Dr. T. remarks, "would not be by adding more soluble salts, which are already in excess by upwards of one-third, but by substracting a certain amount of the earthy substances. It is not, however, to be supposed that any such mode of treament could be attended with any benefit, for omitting the fact that besides saline matters albuminous substances also escape from the blood in this stage of the disease, it must be obvious, on even a cursory examination of cholera, that the condition of the blood is merely a symptom of the disease—an effect of some powerful atmospheric cause of which hitherto we have not been permitted to take cognizance."

The discharges from the bowels in cholera, according to Dr. T.,

"Are always characterized by the presence of what have been termed flocculi. These have generally been assumed to be coagulated albumen. But careful examination under the microscope has demonstrated these masses of organic matter to be chiefly epithelial scales, derived without doubt from the surface of the intestinal mucous membrane, as in the case of the excretions of infants at the breast. These fluids are almost always alkaline; in one instance, however, the fluid was strongly acid, after being kept for twenty-four hours, and on the removal of the cork of the bottle a quantity of carbonic acid was evolved. It is quite possible that the fermentation was due to the presence of sugar in the intestinal canal, derived from milk, which was freely administered, in mixture with eggs, to the patients in the cholera hospitals of this city."

"Usually, the fluids, as evacuated, when allowed to settle, yielded by boiling, or the addition of an acid, distinct evidence of the presence of albumen. The quantity, however, in true rice-water cases, was generally insignificant. On comparing these results with the analyses of the various fluids which make their appearance in serous and mucous cavities, as a result of diseases, it would almost seem that the intestinal mucous membrane had in this disease assumed the functions of a serous membrane, since the liquid evacuated bears a close resemblance, in composition, to the fluid deposited in local dropsies, and does not correspond, as has been generally asserted, with the serum of the blood. It deserves attention, however, that the natural fluids of the mucous membrane bear a close resemblance to those of the serous tissues, inasmuch as they consist of an alkaline fluid, with a small per centage of salts, dissolved in a large amount of water."

From analyses given by Dr. T., it is shown that the nature of the salts in the rice-water evacuations is precisely similar to that of the saline matters found in the serous fluid of hydrocele and hydrocephalus.

"The characters which have been now detailed," Mr. T. remarks, "apply to the usual rice-water dejection; but cases," he adds, "frequently occurred in which the amount of organic matter was found much more considerable, although the proportion of salts was not materially augmented."

When death occurs in the collapsed stage of cholera, the largest quantity of urine which Dr. T. has seen taken from the bladder was about a drachm; but usually the secretion may be said to be totally suppressed. On testing the minute quantities which were obtained, they seemed to contain the ordinary constituents.

As soon as the stage of reaction has terminated favourably, and the patient is so fortunate as to reach the third stage, or that of reaction, according to the researches of Dr. T., the morbid condition of the intestinal discharges commence rapidly to diminish—they become marked by the presence of bile—the blood begins to assume its normal condition—and a state of disease is replaced, before long, by one of health.

The condition of the atmosphere during the prevalence of cholera was carefully examined by Dr. T.; the presence of no organic body could be detected in it.

From the various analyses and experiments detailed in the paper before us, Dr. T. remarks that

"The following are the conclusions which seem deducible from the previous experiments:

"1st. That the incipient stage of cholera does not differ materially from the common forms of diarrhœa, inasmuch as its treament is successfully managed by similar means, and their result may lead to the inquiry—Does not the removal of the symptoms of the disease by narcotics, and, therefore, the retention of the fluids in the system, afford an argument against the idea of a morbid poison being the cause of cholera?

"2d. That in the second stage of cholera, a lymphatic fluid is diffused from the blood into the intestinal canal, corresponding exactly in chemical composition with that secreted or diffused through the serous membranes in hydrocele and hydrocephalus, and other forms of dropsy. Compared with healthy blood, it appears that the salt which has diffused most largely into the intestines is common salt, while the albumen of the blood possesses this power of transference generally in a very limited degree. The facts seem to show that this stage, instead of as in the natural state, the diffusive power of the mucous membrane being exerted from the intestines towards the blood, the reverse action occurs; thus pointing to a parallelism with purely physical phenomena. Conjoined with other characters, they supply an argument for the inquiry—May not cholera be an *Epidemic intestinal catarrh*, influenza being an *Epidemic respiratory catarrh?*

"3d. In the third stage, the lymphatic fluid ceases to be poured out from the blood. The bile is excreted, and the normal diffusion from the intestines to the blood resumes its action.

"4th. There is no evidence of the existence of any organic body in the atmosphere during the prevalence of cholera, and hence the inquiry is suggested—May not this and parallel diseases, which are not contagious, such as ague, be principally due to meteorological and physical influences, acting on debilitated habits, and thus a distinction be established between them and contagious affections produced by morbid poisons, as typified by small-pox?"

The ensuing paper is the history of a "*Case of Structure of the Œsophagus, fatal two years and three months after accidentally swallowing soap lees,*" by Wm. Basham, M. D. A female, 22 years old, drank by mistake some of a caustic solution of impure carbonate of soda. She did not swallow more than a mouthful, as she spat out the portion in her mouth on discovering her mistake. She does not appear to have suffered any pain at the time, or any other inconvenience than the soapy disagreeable sensation in the mouth and pharynx, till near two hours after the accident, when severe vomiting commenced, and continued with but trifling intervals for five days. She was then admitted into the Westminster Hospital, July 16, 1847. Her symp-

toms now were great prostration, red, moist and glazed tongue, pulse 84, small and weak, obscure tenderness or rather soreness of abdomen, arising apparently from frequent retching; no pain on pressure, except at the epigastrium; no tympanitis; skin of natural temperature; no constipation; deglutition painful, and followed by rejection of all ingesta, whether fluid or solid. Countenance expressive of exhaustion. The mucous surface of the tongue, cheeks and pharynx, although red and injected, appeared merely denuded of epithelium; there was no indication of abrasion or ulceration.

Under the use of oleaginous laxatives and demulcents, calomel and opium, a blister to the throat and upper part of sternum, and a mild and farinaceous diet, the stomach gradually recovered its quietude and natural digestive powers—food and drink were retained, and a marked improvement in the patient's appearance was observed. Pain was occasionally felt at the upper margin of the sternum and between the shoulders. Ten years after admission, she was discharged at her own request.

Eleven months from this period, June 8, 1848, she was re-admitted, suffering from very urgent dysphagia—emaciated, weak, and looking like one half starved. She stated that a few weeks after she left the hospital last year, she began to feel occasionally a difficulty in swallowing solids, which increased so much that she was obliged to live on spoonfood; that during the last four weeks, the difficulty of swallowing had rapidly increased, and that for the last eleven days every species of ingesta came back again.

The œsophagus was examined with a small gum-elastic catheter, No. 8; some trifling obstruction was felt at a point corresponding to about one inch below the cricoid cartilage; about one and a half to two inches from this spot, an impediment to the passage of the instrument presented itself, which it required steady and prolonged pressure to overcome. Beef tea was injected into the stomach, and subsequently a little port wine. The patient rapidly improved, and next day was able to swallow beef tea and arrow-root; a tube of increasing size was passed daily. The patient was still unable to swallow any solid portions of food. On the fifth day after her admission, an unsuccessful attempt to pass the tube through the lower stricture was followed by considerable pain about the pharynx and gullet, at the upper margin of the sternum and between the shoulders. These symptoms yielded to a blister and calomel and opium. In the evening the tube was passed. The power of deglutition again improved. The patient improved in flesh and strength, and was made out-patient, June 30, but neglected to attend. On July 18th, she was re-admitted, with aggravated symptoms. Pain referred to sternum and between shoulders. Blistering afforded relief. A tube of the size of a No. 8 catheter was passed daily, and she recovered the power of swallowing fluid nourishment. The state of the stricture would not, however, admit of any increase in the size of the œsophageal bougie. At the end of August, she was again made out-patient, and during the latter months of the year was employed as a nurse in the hospital. During this period, she was not able to swallow solids. She left in January. On the 10th September, 1849, she was admitted for the fourth time. Her symptoms and sufferings had assumed a more aggravated character than on any former occasion. For some weeks previously, the difficulty of swallowing had rapidly increased, and within the last few days everything she attempted to swallow was returned. The bougie met with some trifling obstruction at the upper third of the gullet, just below the cricoid cartilage, which moderate pressure succeeded in passing, but, on reaching the stricture below this it could not be passed by the smallest-sized wax bougies. A variety of remedial means was tried, but without procuring

any permanent relief of the patient's sufferings. The stricture was situated so low in the œsophagus that all hope from surgical assistance was unavailing. Incoherency and delirium supervened, and death from exhaustion and inanition put a period to the patient's sufferings on the 19th September, 1849.

"On opening the œsophagus after death, the pharyngeal or upper third of the tube was much dilated and pouch-like; the mucous surface being puckered up into folds. The coats of the tube in its entire length were much thickened, the mucous and muscular coats particularly, above the first stricture. At a spot corresponding in position to about an inch below the cricoid cartilage, was the first structure; just below this, on the left hand, was the cicatrix of an ulcer about the size of a sixpence. The tube dilated again, and then contracted to about the diameter of a No. 8 catheter for nearly three inches, when it suddenly closed, and presented the appearance of complete obliteration of the canal; and a probe could not be passed from above downwards; a passage could be obtained only by passing the probe from below upwards.

"The thickening of the walls of the gullet commenced just above the first stricture, and continued to the lower one, below which the œsophagus resumed its ordinary character.

"This case," Dr. B. remarks, "affords an example of the succession of structural changes, slowly developed, and proceeding for a time without any very urgent symptoms, which may be expected to follow accidental swallowing of the caustic and carbonated alkalies. The same order of symptoms and similar pathological conditions of the œsophagus have been observed before, and seem common to all these cases. Inflammation is first excited; an impediment to perfect and easy deglutition is accompanied by pains and distress at the inflamed portion of the gullet. This inflammation is constantly renewed and maintained. Stricture follows; difficulty of deglutition results; increased obstruction perpetuates the inflammatory condition, surrounding textures become thickened; the stricture continues to increase, and finally becomes impassable; and the miserable patient at last dies, less from the morbid process itself than by want of nourishment; or craving hunger and insatiable thirst continuing unrelieved, and these, mocked by the ineffectual efforts for their relief, consign the poor sufferer to incoherency and delirium, and death ensues."

After referring to three analogous cases, recorded by Sir Charles Bell, Mr. Cumin, and Mr. Dewar, Dr. B. remarks:—

"The practical question, in considering these cases, is whether any other mode of treatment than that adopted could be expected to avert these distressing and fatal consequences, which appear almost uniformly to follow these accidents of swallowing the caustic and carbonated alkalies. The propriety of treating these cases, in the first instance, for inflammation of the gullet, cannot, I think, be questioned; and leeching, blistering, and calomel and opium, when deglutition can be accomplished, are successful in relieving the earlier morbid conditions. But so soon as these are controlled, and before any positive symptoms of dysphagia present themselves, I should in any future case commence at once the daily use of an œsophageal bougie, and continue its daily employment for months, even in the absence of any symptoms of its necessity."

The eighth paper is "*On the Proximate Cause of Albuminous Urine and Dropsy, and on the Pathology of the Renal Blood-vessels in Bright's Diseases*," by Dr. George Johnson.

We cannot attempt to analyze this able and interesting paper. The following paragraphs will convey to our readers some idea of the view which Dr. Johnson has attempted to establish in reference to the pathology of the diseases of which he treats.

"In tracing the progress of a case of acute dropsy occurring as a consequence of scarlatina, it will commonly, but not invariably, be found that the patient has been exposed to cold. The natural process of elimination by the skin has thus been checked, and the poison is driven inwards to the kidney. It reaches

the inter-tubular capillary plexus, and an effort is made to eliminate it by that modified action of the secreting cells which we have called desquamation. The cells are formed and shed rapidly and in large numbers; so that in the course of a few hours many of the tubes may be completely filled by their accumulated solid contents. This condition of the tubes must obviously impede the secretory process; the blood is imperfectly purified, and excrementitious matters accumulate in it."

"Assuming that the renal circulation is affected by an imperfect elimination of the urinary constituents in a manner analogous to that in which the pulmonary circulation is influenced by the retention of carbonic acid in the blood, we should expect to find that the circulation would first be retarded in the inter-tubular capillary vessels, the obstruction, which will be in proportion to the extent of morbid change in the contiguous tubes and cells, will, of course, exert an influence extending backwards in the order of the circulation; so that the Malpighian capillaries and the arteries which supply them will become gorged with blood. This engorgement is exactly analogous to that of the right side of the heart and venous system observed in animals after death from asphyxia."

"That the circulation through the inter-tubular capillaries is retarded, and that the Malpighian capillaries are consequently subjected to a greatly increased pressure and distension, seems to be indicated by the escape of serum and blood which so constantly occurs during an attack of acute desquamative nephritis following scarlet fever. The serum flows into the tubes, mingles with the urine, and renders it highly albuminous; while the colouring matter and fibrine coagulate in the tubes, and afterwards escape in the form of cylindrical moulds, in which epithelial cells are commonly entangled. There seems no reason to doubt that the blood in these cases escapes from the Malpighian capillaries, which lie within the dilated extremities of the tubes. The result is precisely similar to that obtained artificially by Dr. George Robinson, who observed that when a ligature was placed upon the renal vein of a rabbit, the urine became albuminous and bloody.

"I have observed in all cases of chronic renal disease, which I have examined since my attention has been directed to the condition of the blood-vessels, that the coats of the arteries and of the Malpighian capillaries are remarkably hypertrophied, while the coats of the inter-tubular capillaries and of the emulgent vein present no appearances of hypertrophy or thickening."

"The pathological explanation of the changes in the renal blood-vessels appears to be this. There is an imperfect elimination of the urinary constituents, in consequence of changes in the secreting cells, produced by an effort which they have made to excrete abnormal products. Deficient excretion at once leads to impeded circulation—the obstruction occurring at the very point where the excretion should be effected, viz., in the inter-tubular capillaries. The impediment reacts backwards upon the Malpighian capillaries, which in a sudden acute attack become ruptured, and allow the blood to escape into the urinary tubes; but when the disease has been of longer duration, they become thickened, and permit only the serum of the blood to escape. The thickening of the Malpighian capillaries is probably preservative, and is intended to enable them to bear the increased pressure to which they are subjected during the continuance of the disease.

"The thickening of the arteries, which proceeds simultaneously with that of the Malpighian capillaries, affords support to the opinion entertained by some physiologists, that the smaller arteries exert a propulsive influence upon the blood. The remarkable hypertrophy of the muscular coats of these vessels seems to have for its object to assist in driving the blood onwards through the inter-tubular vessels in which the impediment exists. Finally, the gland cells being destroyed, and the process of secretion arrested, the circulation ceases, the tubular tissue wastes, and oil globules collect in the canals of the blood-vessels."

"The subject of renal dropsy appears now to demand a brief notice. Analogy would indicate the very great probability that this form of dropsy is produced by an impeded circulation through the systemic capillaries, consequent

upon the retention of the urinary constituents, 'the blood.' "There is one fact which, *per se*, is almost sufficient proof that the systemic capillary circulation is actually impeded, in the way supposed, as a consequence of imperfect elimination of the urinary constituents. I allude to the frequent occurrence of hypertrophy of the left ventricle of the heart in cases of chronic renal dropsy, when there exists no obvious disease of the valves or vessels to account for such hypertrophy. The very frequent concurrence of cardiac and renal disease was long since pointed out by Dr. Bright."

"The frequent connection of cerebral hemorrhage with renal disease is another fact closely related to those already mentioned, as also the occurrence of what is sometimes called serous apoplexy. Both these phenomena are, in all probability, associated with impeded circulation through the cerebral capillaries."

The ensuing paper is "*On Fatty Diseases of the Heart*," by Dr. Richard Quain. Of this long and elaborate paper, it would be impossible to present anything like a satisfactory analysis, without extending our notice of the volume before us to a very unreasonable length. The subject is considered under the following heads—

"I. The varieties of Fatty Diseases of the Heart, and their respective characters.

"II. An account of preceding observations on these diseases.

"III. A consideration of the circumstances under which they occur—their causes.

"IV. Their Effects on the Structure and Functions of the Heart.

"V. Their Symptoms and Diagnosis.

"VI. The indications for their treatment."

Next in order we have the account of "*A case of gunshot wound, and subsequent extraction of a bullet from the bladder*," by Mr. E. M. Macpherson, with a notice in tabular form of similar cases by Mr. James Dixon.

A soldier in battle was shot in the left buttock, about the situation of the ischiatic notch, but he immediately felt such severe pain in the left testicle as made him at first suppose that part to be the seat of injury. The wound healed without difficulty, and no blood was ever detected in the stools or urine. Shortly after the infliction of the wound, a discharge from the urethra occurred with some pain in passing water. The discharge continuing, and much ropy mucus being secreted, the presence of a foreign body in the bladder was suspected, and upon the introduction of the sound found to be the case. The lateral operation was performed, upwards of six months subsequent to the receipt of the wound, and an iron ball was extracted from the bladder, weighing 1 oz. 38 grs.: it had become incrusted with a very thin layer of sandy deposit. By the end of October, two months after the operation, the patient was convalescent.

An interesting case is next related "*of scrofulous abscess of the anterior mediastinum, communicating with both sides of the chest, the pericardium, and trachea, forming a tumour above the clavicle, and simulating aneurism of the innominata artery or arch of the aorta*," by Daniel Maclachlan, M. D.

The patient was 61 years of age—when admitted into the Chelsea Infirmary, January 5th, 1849, complained of great difficulty of breathing, general debility, and constant pain in the back of the head, right shoulder and arm.

"Immediately above the sternal end of the right clavicle, and dipping underneath this bone, there was a slightly movable, somewhat flattened tumour, of the size of a tennis-ball, divided through the centre by a superficial sulcus, the integuments covering the inner half of which were slightly reddened. At this place a knuckle-like projection existed. The tumour was tense and elastic, except where it seemed to point; here an obscure feeling of fluctuation was percep

tible; it was free from pain, and neither bruit nor pulsation could be detected in it."

The right carotid beat feebly—the pulse at the temple and wrist scarcely discernible; deglutition difficult—voice husky—spoke in a whisper—respiration always impeded, occasionally asthmatic—patient could not lie down—was incessantly harassed by a teasing dry cough. The face and scalp congested—external jugulars and cutaneous veins prominent—lips livid. There was almost constant pain in the back of head and right shoulder, with pain and numbness extending down to ring and middle fingers of right arm. Arm not œdematous. A swelling, supposed to be an enlarged gland, below the angle of the lower jaw on right side. General health greatly impaired—great emaciation—pulse weak and rapid.

Whole right side of chest, anteriorly and posteriorly, dull on percussion. Sternum universally elicited a dull sound. Some fullness in the right infra-clavian region. Intercostal spaces not prominent nor different from those of left side, but the costal movements were absent on the right side, but unusually vigorous on the left. Respiration clear and puerile over the whole left side of the chest, with the exception of the præcordial region. It was entirely absent in the right side anteriorly. Along the spine, and at the base of scapula on this side, a feeble respiratory murmur, with occasional mucus râles—vocal and tussive fremitus absent. The hand applied to both sides of the chest discovered moderate vibration on left side, but none on right. Altogether, the physical signs indicated extensive effusion into right cavity of chest, and yet there were circumstances rendering a positive declaration of this hazardous.

The præcordial region extensively dull on percussion—no perceptible impulse of heart—at no period were its sounds audible, however carefully the patient was examined. Latterly, the erect posture or any sudden muscular effort occasioned faintness. The pulse, frequent and compressible, was almost imperceptible in the radial and temporal arteries of right side.

Without change in the physical signs, about three weeks after admission, rather suddenly, the respiration became more embarrassed, and the asthmatic paroxysms more frequent and severe. The difficulty of swallowing also increased. The voice now almost indistinct, cough still nearly dry, with occasionally a mixture of florid blood in the very scant catarrhal expectorations, and about ten days before death the sputa were purulent but still scanty. The tumour remained nearly stationary. January 28th, some fulness perceived along the lower part of the right side of neck, extending backwards towards the vertebræ, without any sense of fluctuation. Neither in this swelling nor in the circumscribed tumour was there ever any impulse communicated on coughing. January 30th, a needle was introduced into the most prominent part of tumour, and pus being discovered, a small opening was made, when nearly three ounces of curdy sero-purulent matter escaped, the walls of the abscess collapsing, and the tumefaction towards the spine partially subsiding.

"From this date, the patient gradually sank—on the day after the operation his breathing was more free. Each fit of coughing was now accompanied with a jet or gush of sero-purulent fluid from the opening, and the quantity discharged during the day in this manner was very considerable. The exhaustion prevented a satisfactory physical exploration. On the 2d February, the right side of the chest, from the clavicle down to the nipple, had gained its lost sonoriety in a remarkable degree, and the respiration in the apex of this lung was now puerile. The dullness and absence of the respiratory murmur lower down remained as heretofore. Posteriorly the chest was not examined. No change was perceived in the sternum nor in the region of the heart. The respiration

in the left lung had diminished in intensity, acquiring, with the partial relief to the right lung, a more normal character. Death happened on the 7th of the month."

The previous history of this case as given by the patient is vague and unsatisfactory.

The appearances discovered upon a post-mortem examination were enormous thickening of anterior mediastinum—the free surface highly vascular; between its laminæ, in the substance of a diseased mass of hypertrophied cellular and adipose membrane, there was an almost empty abscess, capable of holding a billiard-ball. This communicated by several fistulous openings with the right side of the chest, and with the pericardium by a very distinct ulcerated perforation, admitting the little finger, situated near the right auricle. It also communicated, by one or two openings, with the tumour or abscess in the neck. The internal surface of the trachea was highly vascular, as was the mucous membrane lining the first divisions of the bronchi. Midway between the larynx and bifurcation of the trachea, on the anterior and internal aspect, three or four warty granulations, of the size of a split-pea, were observed, apparently the terminations of fistulous openings, through the lowermost of which a common probe could be passed into the diseased mass. Larynx perfectly healthy. The innominata, and a considerable portion of the subclavian, were imbedded in the indurated structures. The sternum, vertebræ, and clavicle sound. The right pleural sac contained several pints of curdy, sero-purulent fluid. The right lung was pressed against the spine, sodden and splenified. Its pleural covering, and that lining the ribs, perhaps, paler than usual, certainly free from any sign of recent inflammation. About a pint of a similar fluid in left pleural sac. The pleuræ pulmonis et costalis healthy. Both lungs studded with miliary tubercles. The pericardium contained about eight ounces of pus, of the same nature as that in the abscess and pleural cavities. This sac otherwise free from disease. The heart sodden but healthy. The viscera of abdomen normal. As suspected, the submaxillary swelling was an enlarged scrofulous gland.

The twelfth paper is the history of a "*Case of Mollities and Fragilitas of Ossium, accompanied with urine strongly charged with animal matter,*" by William MacIntyre, M. D.

This is a highly interesting case—and not less interesting are the remarks appended to it, in reference to the pathology of the somewhat rare disease under which the patient laboured. We can spare room only for the following extract:—

"From the foregoing details, it will be seen that, although this case was stamped with characters of the most striking and aggravated kind, its real nature remained unknown to the last. The affection to which it bore the nearest resemblance, was a severe attack of lumbago or sciatica; but it was evident, from more than one feature of the complaint, that sufferings so intense must have a deeper seat and more formidable cause than mere muscular or neuralgic rheumatism. In particular, it was ascertained that the patient had lately lost strength and wasted rapidly, although his appetite continued keen, and he was consuming a much greater amount of solid animal food than he had ever been in the habit of taking when in perfect health.

"The discovery of albuminous matter in the urine naturally suggested the existence of Bright's disease; but that supposition was abandoned, on a closer consideration of the character of the symptoms, and the peculiar condition of the renal excretion. The leading symptoms were not such as usually accompany that affection. Atrocious pains, like those which assailed our patient, constitute no part of Bright's disease, while two of its constant attendants, dropsy and cerebral disturbance, were absent. The presence in the urine of an

animal principle alien to it in a normal state, might, it was at one time supposed, be attributable to erroneous vital chemistry, involving a perversion of the primary or secondary assimilating processes. This explanation was, however, deemed far from adequate, for, admitting the probability of these functions being in fault, the question as to what particular organ was affected, and what the special lesion that could give rise to a pathological condition so very anomalous, remained unanswered, and the case closed amid the uncertainty and doubt which had surrounded it from the beginning. But the information denied to the most anxious inquirers, prompted alike by the obscurity of the complaint and sympathy with the sufferer, was yielded to the first touch of the anatomist's knife. The crumbling ribs proclaimed the presence of a disease of the osseous system, and more remarkable for its phenomena than terrible in its effects."

As the dissection proceeded, a similar disorganization of bony structure was detected in other portions of the body, which had, during life, been the seat of suffering. With the lumbar vertebræ disappeared the characters of active disease and disorganization.

"The sacrum and flat bones of the pelvis were unyielding and impenetrable by the knife, but in colour they exhibited, it was thought, an unnaturally gray tint. Beyond this, the examination was not prosecuted, as the cylindrical bones of the extremities were found to resist all efforts to break them by manual force."

The thirteenth paper is the history of a "*Case of very large Hæmatocele of the Spermatic Cord, proving fatal after ten years,*" by Mr. William Bowman; to which is added a "*Case of very large Hæmatocele of the Tunica Vaginalis, in an old man, terminating fatally,*" by Mr. Thomas Blizard Curling.

The first of these cases occurred in a farmer, nearly sixty years old, and of good constitution. About ten years before his death he had been thrown from his horse against some railings, receiving a blow, probably on the right groin, where a swelling immediately appeared—confined to the inguinal canal and resembling a hernia. It was not, however, reducible—had no impulse from coughing—there was ecchymosis and no symptoms of strangulation. It was as large as a hen's egg, oval, elongated in the direction of Poupart's ligament; firm but elastic. Under simple treatment the pain and ecchymosis gradually subsided, and the tumours gave the patient no particular uneasiness. For seven years it underwent little change save a slow enlargement in size, but became at the end of that time, during exertion in walking, suddenly larger and heavier. This increase was found to depend on a vast effusion of blood, not merely about the canal, but into the tissues of the scrotum. After the disappearance of the ecchymosis, the tumour manifested no disposition to recede, rather to augment in size, and the surface of the scrotum began to exhibit large distended veins meandering across it. There was fluctuation, and a trocar was cautiously introduced by the surgeon who was now called in; a free gush of blood followed. The wound kindly healed. It was subsequently again punctured, with the same result, by another surgeon. Now, however, a tympanitic sound was perceived on percussion over the upper third or two-fifths of it; on shaking the tumour, a sound like that produced by agitating a thick fluid in a vessel containing air. This is heard as well as felt.

Towards the close of the tenth year after the accident, the dimensions and weight of the tumour were enormous.

The patient had long been confined to his bed from sheer inability to drag so great a substance about with him, and he was now also much reduced in

strength, and had a worn and haggard countenance. He had been lying habitually on his back, with the tumour resting on the right thigh, and it had become moulded by constant pressure to the shape of that part. It reached to the patella, had an oval shape, and was so heavy that it required two hands and no slight effort to raise it from its bed. Its neck ran up into the inguinal region. Its surface was crossed by many very large veins, several as large as writing-quills, which occupied deep grooves that might be felt in the hardened tissues of the dartos. The majority of these vessels took a nearly transverse course over the tumour, about an inch apart, and in somewhat regular parallel lines. The skin was dark-coloured and congested, and presented the cicatrices of the two punctures which had been made into it. At the seat of the more recent one, and also in another spot, there might be felt, through the skin, an opening or deficiency in the wall of the dense and apparently membranous investment of the tumour, circular in form, larger than a crown piece, feeling like holes punched out of a piece of parchment. In most parts, the feel of the tumour was that of a dense, solid mass; but in some parts there was a doubtful sense of fluctuation. The right testicle, with the epididymis, was at the very lowest extremity of the tumour most distant from the abdominal ring, and rested on the knee-joint. It appeared large from congestion, but slipped about naturally, forming no part of the diseased mass. Percussion gave a tympanitic sound over the more elevated portions of the tumour, and on shaking it the sound of air and fluid mingling was very audible. This, with the low irritative fever under which the patient laboured, rendered it probable that since the second puncture the contents of the sac had fallen into a state of decomposition, and in order to afford vent to the gas and other putrid matters, a trocar was thrust in between some of the large venous channels, at a spot where the covering was thinnest. Much fetid gas, and some dark-brown blood, of the consistence of treacle, evidently putrid, at once escaped. As no hemorrhage occurred to interrupt this proceeding, the opening was enlarged to an extent of three inches, by which an issue was allowed to a large quantity of the same kind of blood, mixed with large masses of old coagulum, not unlike that found in aneurismal sacs, altogether nearly filling two large wash-hand basins.

"It now became evident," says Mr. B., "that the tumour was an immense sac, situated in the course of the spermatic cord, and filled with blood, and that it had arrived at that stage when the only hope for the patient was in the complete evacuation of its contents. As for a summary removal of the entire tumour, the proposal could not be entertained. The reduced and almost typhoid condition of the patient, the extent of the scrotal covering, and especially the extraordinary size and number of the veins imbedded in the walls of the sac, and the firm and universal adhesion of the sac to the skin, quite precluded it. We, therefore, contented ourselves with making a counter-opening at the lower part for the further drain of the contents. After all this had been done, so firm and solid was the wall of the cavity that it collapsed but little, and large masses of coagula of various degrees of solidity remained within it, adhering to its inner surface. A poultice was then applied."

The patient now commenced rapidly to sink, and, at the end of a few days, died.

The case of Mr. Curling occurred in a male, aged seventy-nine. The patient had laboured for many years under a scrotal tumour, which had, within two days before Mr. C. saw him, increased considerably in size, and become painful. The swelling was now larger than the patient's head, extending half way down the thighs. When balanced in the hands it weighed heavy. It had an elastic feel, received no impulse on coughing, and was quite opaque.

Its upper boundary, which reached as high as the left abdominal ring, was not well defined. The testicle on this side was not perceptible. The integuments were red and œdematous, and the part was tender when handled. The patient could not pass his water, and the penis was so completely imbedded in the tumour that it was impossible to reach it at the navel-like orifice in order to pass a catheter. An incision was made gradually down to the sac, on opening which upwards of three pints of dark grumous blood gushed out, on the surface of which floated numerous particles of cholesterine. On enlarging the opening, and passing the finger to the bottom of the sac, several rounded bodies, larger than marbles, were felt. Their nature could not be made out, and they were not disturbed. The thickened condition of the sac prevented its collapsing after the operation. The wound was closed, and a catheter introduced into the bladder, through which about twenty ounces of urine were discharged. One week after this the patient died. On examining the parts after death, the large sac was found to consist of a dilated tunica vaginalis, the testicle being situated, as usual, at the back part. The rounded lumps proved to be masses of coagula adherent to the sac.

The next paper is the history of "*A Case of Disarticulation of the Left Condyle of the Lower Jaw, with Excision of nearly the left half of the Bone, on account of a very large cartilaginous tumour growing from and occupying the site of all this part of the bone, save the condyle and neck,*" by William Beaumont, of Toronto, Canada.

The disease occurred in a boy seven years of age. The tumour of the face had been first observed for about three months; it was at first nearly the size of a nutmeg. At the end of two months it had acquired its largest size externally, but during the last month had grown inwards into the mouth, and backwards towards the pharynx. The patient is said to have received a blow on the left side of the jaw from a boy's fist, a few months before the tumour was first observed. When admitted into the hospital, the lad, besides exhibiting externally great distortion of the face, could not speak intelligibly; he had been unable to masticate for the two previous months, and swallowed, with great difficulty, only fluid or semifluid aliment. He was thin and pale, but otherwise his general health was good.

Ten weeks and a half after the operation, which appears to have been very skilfully performed, the wound had healed externally—the external cicatrix was a mere line—a cicatrix could be seen on the inside of the left cheek, near the anterior arch of the velum. The truncated jaw near the left cuspidatis, was soundly covered by an investment like mucous membrane. The patient could masticate a crust or piece of meat without difficulty—could swallow readily, and his articulation was only slightly affected, probably from his having so long been unable to articulate. His general health was good.

The fifteenth paper is "*On Excision of the Os Calcis, in incurable disease of that Bone, as a substitute for Amputation of the Foot, with a case,*" by William Bousfield Page, of Carlisle.

The case related by Mr. Page was one of carious disease of the os calcis, occurring in an unhealthy, ill-nourished, scrofulous boy, sixteen years old. The excision of the diseased bone was performed under the influence of chloroform. Fourteen weeks after the operation the boy was discharged. He could now bear considerable pressure on the heel without suffering—but was forbid the use of the foot, or to wear a shoe, for several months. At the end of six months he was perfectly well, but from want of a proper shoe he continued to use a crutch for some time longer. Sixteen months after the operation, the patient, when sitting, could extend the foot perfectly, and imper-

fectly when standing; but in walking, the spring of the foot is so nearly lost that he has a slight limping in his gait. He wears a boot in which a piece of cork supplies the place of the lost bone; he can walk, run, and jump with little impediment; in short, for all the uses of the foot, it is as serviceable to him as the other.

From the favourable result of this, and of other cases, in which the os calcis was excised in the New Castle Infirmary, Mr. Page urges the adoption of this operation in all cases in which disease of the os calcis exists without involving the other bones of the tarsus.

The sixteenth paper is the history of "*A Case of Stricture of the Rectum, wherein an artificial anus was successfully established in the left lumbar region,*" by J. Wilson Croker Pennell, M. B., of Rio de Janeiro.

The case occurred in a gentleman about fifty years of age. Had five years previously discovered the existence of structure of the rectum. It was treated by bougies, and upon several occasions by free division of the stricture by the knife, but without more than temporary relief. To the finger the gut felt as hard as cartilage. It was found impossible to continue the use of instruments, either for the purpose of dilatation or for maintaining an open condition of the stricture after division, in consequence of the extreme suffering and constitutional irritation which ensued. Palliative treatment was resorted to. Ultimately, in consequence of violent and repeated straining at stool, the bowels ulcerated, and the fæces formed a false passage into the urethra and bladder; so that from this time nearly all the fæces passed through the penis. He had also a narrow stricture, in consequence of which, for eighteen years, it had been impossible to pass an instrument into the bladder. His sufferings now became greatly increased. Frequently the fæces were retained for days in the urethra; the bladder became daily filled with gas, producing a sensation as if it were about to burst. Inflammation and partial suppuration of the testicles took place, then inflammation of the liver and kidneys. Hectic fever came on every evening, so that the patient's system was at last evidently giving way under his protracted sufferings, and the accumulation of disease. Finally, as affording the only chance by which life could be prolonged, the operation of opening the descending colon, after the plan of Callisen, which Mr. P. prefers to that of Amussat, was decided upon and performed.

In a few days after the operation, the hectic fever ceased, and in two weeks the patient increased so much in strength and flesh, and was so completely relieved of his sufferings, as to be able to walk about with ease. At first, the urine passed entirely through the anus, but in three or four days it began to pass by the urethra, but mixed, at first, with a large quantity of pus, which gradually diminished. The urine, at times, passed by the bowel and escaped by the wound.

We are next presented with some remarks "*On the use of the Speculum in the Diagnosis and Treatment of Uterine Diseases,*" by Robert Lee, M. D. The object of this paper is to present concisely the results of the author's observations during the last twenty-three years, on the real value of the speculum in the diagnosis and treatment of uterine diseases.

Dr. Lee believes that in all the class of organic uterine diseases, comprehending fibrous, fibro-cystic, glandular, and all other tumours which are not malignant, little or no aid can be derived from the speculum in their diagnosis and treatment. He has derived no assistance whatever from the speculum in the diagnosis and treatment of any of the varieties of malignant disease of the uterus either in their early or in the advanced stages.

Dr. Lee repudiates the idea that ulceration of the os and cervix uteri is of such frequent occurrence as has been supposed by some recent advocates of the speculum.

"Never," he remarks, "in the living or in the dead body have I ever seen ulceration of the os and cervix uteri except of a *specific* character, and especially scrofulous and cancerous; but I have met with a very considerable number of cases in which it had been affirmed by others to exist during life after deliberate and repeated examination by them with the speculum, where I ascertained that ulceration did not exist in the os and cervix uteri, *nor disease of any kind*. This mistake has happened not once, and to one individual, but in a number of cases, and to several practitioners, who avow that they are 'in the daily, and almost hourly, use of the speculum.'"

"From the age of maturity to the middle period of life," he remarks, in another part of the paper, "the uterus is rarely, seldom at least, comparatively with advanced age, affected with organic disease of any kind. Amenorrhœa, hysteria, dysmenorrhœa, menorrhagia, leucorrhœa, and various nervous affections, local and constitutional, are those from which females chiefly suffer before the age of twenty-five or thirty. An examination of the physical condition of the uterus in unmarried females, either with or without the speculum, I have always refused to make, even when requested to do so, unless pain, severe and almost constant, in the region of the uterus existed, leucorrhœa or hemorrhage, which did not yield to treatment, and where the symptoms did not make me strongly suspect the presence of some displacement or organic disease. In unmarried women, whatever their rank or condition in life may be, the integrity of their structures should not be destroyed with the speculum, nor their modesty wounded by an examination of any kind without a necessity for such a proceeding being clearly shown. Even in married women who are barren, or who have had children, it is unjustifiable, on the grounds of propriety and morality, to institute an examination of any sort, unless the symptoms warrant the supposition that the uterus is displaced or is in a morbid condition, the nature of which cannot be determined by the symptoms alone. Numerous cases of leucorrhœa in young unmarried females, where rational, constitutional, and local treatment is adopted, perfectly recover where no examination is made.

"In cases of obstinate leucorrhœa, I have often employed the speculum in married women, after I had failed to detect the existence of disease by the ordinary mode of examination. In some of these cases, there has been seen an unusual degree of redness of the os uteri, sometimes affecting the whole, and at other times limited to the inner margin, with or without swelling. The white viscid discharge has been seen issuing from the os uteri. I have never seen ulceration of the orifice of the uterus in such a case, and the condition of the interior of the cervix I have never been able to demonstrate, either with the bivalve or any other speculum; nor do I believe that, in the ordinary condition of the os uteri, it is possible to see the inner surface of the cervix to any great extent by any means."

This paper is replete with important practical remarks.

The next paper is by the same author; it is a "*Supplement to a paper on Fibro-calcareous Tumours and Polypi of the Uterus*," contained in vol. xix. of these Transactions.

Appended to this paper is the history of a case, in reference to which Dr. Lee remarks:—

"It has been stated by several recent writers that fibrous tumours of the uterus inflame and suppurate; but until the occurrence of this remarkable case of abscess in the centre of a fibrous tumour imbedded in the walls of the uterus, I had never seen an example of this morbid alteration of structure, nor met with any pathologist who had witnessed the phenomenon. If the fact has ever before been observed, I am not aware that it has been distinctly demonstrated, or its importance pointed out in the diagnosis and treatment of the disease."

Next follows the history of a "*Case of Fatal Poisoning by Sir William Burnet's fluid,*" by H. Letheby, M. B.

The fluid alluded to is a strong solution of the chloride of zinc, prepared as a deodorizing and disinfecting agent. A portion of this a female infant, aged fifteen months, swallowed; she was immediately seized with violent sickness; an hour and a half subsequently she was found in a semi-comatose state; the vital powers much prostrated; countenance pale and anxious; breathing thoracic and rapid; pulse quick and fluttering; general surface of the body cold and bedewed with perspiration; lips swollen and much covered with a thick transparent mucus. The inner surface of lips and lining membrane of mouth presented an opaque white appearance, as if they had been acted upon by some caustic or corrosive substance. When roused from its lethargy, the child craved cold water, and retained it in its mouth with apparent satisfaction, but on attempting to swallow the water, the greater portion of it returned by the nostrils. The throat appeared somewhat swollen, and probably was painful, as the child frequently raised both hands to its neck. On attempting to administer to the patient a solution of albumen, from the swollen and constricted condition of the throat, little or none passed into the stomach. The albumen was coagulated by the fluid matters which still adhered to the mouth. There was occasional vomiting of a frothy fluid, like curds and whey, at which times the child was roused from its heavy drowsy state. Gradually the coma became deeper, the respiration slower, the pulse more feeble, the surface of the body colder, and in the evening, ten hours from the accident, the child died.

A post-mortem examination was made 22 hours after death. Body plump and well developed; face pale and somewhat swollen; a dark brown scab on the lower lip, the effect of the corrosive action of the poison; lining membrane of lips, mouth, fauces and œsophagus of an opaque white colour; lungs slightly congested; auricles of heart full of dark semi-fluid coagula; ventricles empty, outer surface of stomach presented a peculiar mottled appearance from ramifications of dark purple vessels; intestines paler than natural; stomach felt hard and leathery; contained 1½ oz. of a fluid resembling curds and whey; its inner surface corrugated, opaque, and tinged of a dull leaden hue; this appearance stopped abruptly at the valve of the pylorus, from which point the rest of the alimentary canal had a natural appearance; the kidneys were greatly congested.

The 20th paper is the history of "*A Case in which the Urachus remained open, and a Ring-shaped Calculus, formed upon a hair in the bladder, was extracted through the Umbilicus,*" by Thomas Paget.

The patient, 40 years of age, was found to be labouring under calculus of the bladder. During attempts to make water, and strong efforts at work, a portion of his urine was apt to escape at the navel, which was open. This, as far as he knew, had been the case from his birth. Mr. Paget found that the nose of a catheter was easily made to appear from the bladder at the umbilical opening. It was first proposed to distend the bladder to its utmost, with warm water, the umbilicus being tightly plugged, and the patient reclining upon Heurteloup's table, with his head lower than the pelvis, that upon removal of the plug the calculus might flow out with the water. It occurred, however, to Mr. P. to try first a finger at the umbilicus. It readily entered, and when at full length down the unnatural passage, caught within the circle of the calculus, so as to enable its being drawn along the side of the bladder and extracted. It was annular in form, and upon carefully truncating it the projecting extremity of the hair upon which it was formed, was readily seen.

"The phenomena connected with the opening at the umbilicus may be thus described. There is a circular deficiency in the linea alba an inch in diameter, its margin being thickened and of cartilaginous hardness. Through this protrudes a hernia of the size of a goose's egg, which in lieu of ordinary integument is covered by mucous membrane, the surface, however, becoming dry when exposed for any length of time. He never makes his water while the hernia is out: when called to an effort for that purpose, the first act of the bladder is gradually to draw into the abdomen the whole of the protruded substance; its first contractions have no other effect, and it seems not to have power to force the urethra until that is accomplished. At the latter part of the act, at the instant of the disappearance of the hernia, there occurs a rather forcible jet of urine from the opening. The flow by the urethra also commences at this juncture, and the bladder is emptied in the usual way, the jet from the umbilicus ceasing, not to be renewed except by a violent accelerating action of the expulsor muscles. He can retain a pint of urine.

"By watching the first contractions of the bladder, it becomes evident that to the thickened margin of the umbilical aperture are attached the muscular fibres of the bladder extended along the urachus; in fact, that the bladder and urachus are formed into a urinary receptacle, which in shape may be compared to a curved-necked cupping-glass, the urethra passing out at its lower end, and its mouth being attached by muscle to the circular aperture in the linea alba. It becomes evident, also, that the pouch of the hernia is formed by evasion of the posterior part of the neck only, which is of course attached to the upper half of the aperture, and when protruded presses upon the hard edge of the lower half sufficiently to prevent the escape of urine, except under straining efforts of the abdominal muscles. The hernia is generally out; and he wears a girdle with a thick pad of flannel to catch the jets of water which are apt to occur while he is at work.

"After the extraction of the calculus, the man was entirely relieved of his bladder symptoms."

The ensuing paper is the history of a "*Case of Ileus complicated by Hernia,*" by Samuel Solly.

The patient was suddenly affected with inguinal hernia, attended with violent pain of the abdomen. The hernia not being reducible by taxis, the operation was performed. The pain in the abdomen still continued; to this were subsequently added frequent eructations and great nausea; obstinate costiveness; inability to pass his water; scarcely perceptible pulse; cold clammy skin; vomiting of a considerable quantity of a greenish bile, not feculent. On the day of his death, he passed wind and feculent matter per anum; the pain and vomiting ceased; but the system never rallied. He died thirty-two hours from the commencement of his symptoms.

The abdomen was examined the morning after his death. The internal and external rings were found quite free; and about a foot and a half of small intestine enormously distended, and nearly black, lying in the pelvis; when this was raised it was found to be girt by a band about 1½ inch long, connected with the cœcum on the one side, and with the peritoneum covering the iliacus internus muscle, close to the internal abdominal ring, on the other. This band was round and firm, and seemed to be either one of those bands of old adhesive inflammation, occasionally met with in the abdomen, or the remains of the omphalo-mesenteric duct. It must have existed a long time. It was not so tight as to have strangulated the gut in its undistended state. Mr. S. has no doubt that this band was the cause of the previous obstinate constipation, and also of the subsequent irritation of the bowels, under which the patient had laboured, though this all subsided before the fatal strangulation took place.

Next follows the history of "*Two cases of absence of the thyroid body, and*

symmetrical swellings of fat tissue at the sides of the neck, connected with defective cerebral development," by Thomas Blizzard Curling.

The first case occurred in an inmate of the Idiot Asylum at Highgate, and was supposed to be one of *cretinism*, in a female child, of stunted growth, 10 years of age. She measured 2 feet 6 in. in height. Her body was thick; her limbs disproportionately large and long; dorsal surface of body and limbs hairy; head heavy looking; forehead flat; fontanelles unclosed. The countenance had a marked and very unpleasant idiotic expression. The mouth large; tongue thick and protuberant. At the outer sides of neck, external to the sterno-cleido mastoid muscles, were two tolerably symmetrical swellings, having a soft, doughy inelastic feel. There were similar swellings, but smaller and less defined in front of the axilla. No enlargement in front of the neck; the thyroid gland could not be perceived. The child had very little power of locomotion but could walk from chair to chair, with a little assistance. She had no power of speech. She recognized her parents, and evinced some manifestations of the exercise of the will. Whilst in the institution she had a severe attack of erysipelas, after temporary recovery from which her mind seemed more developed. A considerable abscess formed in the thigh, which discharged copiously during many weeks. After this healed, erysipelas subsequently re-appeared, accompanied with glossitis and stomatitis, from which she died exhausted, six months after the commencement of her illness, and about 15 months after admission into the asylum. After death the swellings in the neck were much less in size than they had been prior to her illness. They were found to be composed of fat, and occupied the posterior triangle of either side of the neck, dipping downwards behind the clavicles, and filling the axillæ. They could be traced extending slightly over the infra-spinal muscles, and the lowest angle of the scapula. They were not enveloped in capsule, but consisted of fat of a loose lobular structure, which seemed, under the microscope, to be made up of connecting tissue and fat globules. There was not the slightest trace of a thyroid body.

The second case occurred in a female infant six months old. The child was plump, but had a marked idiotic expression, a small head with very receding forehead. Tongue large and protruding; on the sides of the neck, beyond the sterno-cleido mastoid muscles, were two soft symmetrical swellings, having a doughy feel, and incompressible. They were of an oval shape, lying obliquely across the sides of the neck, and extending from the edges of the trapezii muscles to the middle of the clavicles. The infant was said to be more helpless in her lower limbs than is usual in children of her age. The child died convulsed about one month after it was seen by Mr. Curling. On examination after death, nothing abnormal was observed in the brain, except a remarkably small development of the anterior lobes of the cerebrum. No trace of a thyroid gland could be discovered. The swellings in the neck were found to consist of superficial collections of fat tissue, without any investing envelope, and loosely connected to the surrounding parts.

"I am not," says Mr. C., "acquainted with any case on record in which a deficiency of the thyroid gland has been observed in the human body. But apart from the interest which must attach to the cases just related, from their great rarity, the development of adipose tissue forming symmetrical swellings in the neck cannot fail to add to their importance; for it is highly probable that this abnormal secretion of fat was dependent on the absence of those changes which result from the action of the thyroid, or on some imperfection in the assimilating processes, consequent on the want of this gland; and the facts here detected may not be without significance in directing the researches of future inquiries into the use of this body. In countries where cretinism and bron-

chocele prevail, it was long supposed that there was some connection between the defective condition of the brain, and the hypertrophy of the thyroid. Pathologists have recently been inclined to view the coincidence of these two affections as accidental, or as having no direct relation. In the foregoing cases, we have examples of a directly opposite condition, viz., a defective brain, or cretinism, combined with an entire absence of the thyroid, which may be regarded as tending to confirm the more modern opinion respecting the connection between cretinism and bronchocele."

The 23d paper is an "*Account of a case in which an Abscess formed in the Vesicula Seminalis, and proved fatal by perforation of the bladder, and extravasation of pus into the abdominal cavity,*" by Mitchell Henry. The case occurred in a sailor 20 years of age. He complained on admission of pain in the loins and hip joint, while his gait was that of a person labouring under morbus coxarius; upon examination, however, the hip joint was found to be free from active disease, and it was then supposed he might have disease of the kidney. The patient attributed his disease to a severe wetting to which he had been exposed six months before. Had never had gonorrhœa or any form of syphilis, and had usually no difficulty in urinating.

His symptoms are described as follows: Great tenderness and shooting pain in the left groin and hip, extending up the loin of that side, and much increased by any motion of the joint; acute febrile symptoms; a red tongue, great thirst, quick, small pulse; bowels moderately open; urine sp. gravity 1.029, thick and scanty, causing burning pain in its passage along the urethra. The urine on the second day was light in colour; and deposited a copious thick sediment, which proved to be almost entirely pus. On the fourth day he commenced to pass blood with his urine; the purulent deposit still continued. On the 10th day violent purging came on, preceded by pain and tenderness of the abdomen; next day he vomited everything; on the 13th day the discharges from bowels and the vomiting had ceased; the pulse small and frequent; extremities cold; abdomen still tender, and on the 15th day a cough set in; the abdomen became tympanitic; still very tender, and about the middle of the day the patient died in much agony, retaining his consciousness to the last.

After death the body was blanched and emaciated; nothing particular was observed in the cavities of the head or thorax. The abdominal cavity was filled with a great quantity of cream-coloured fluid pus, evidently from an abscess and not the product of peritonitis. Peritoneum in an early stage of inflammation; intestines slightly adherent; surfaces of liver and spleen covered with a layer of recent lymph. The liver, spleen, stomach and other abdominal organs quite healthy but pale. Kidneys and ureters free from disease. The bladder contained some pus, and was perforated by an ulcer as large as a sixpence. The hip joints, vertebræ, the urethra, testicles, prostate and neck of the bladder presented no marks of disease. At length the remains of a large abscess was discovered in the situation of the left vesicula seminalis, which was nearly destroyed by suppuration. The abscess had perforated the bladder, and discharged its contents into that viscus by a small rounded hole, just where the peritoneum is reflected from the sides of the bladder. The pus had, consequently, found its way into the abdominal cavity, and set up the fatal peritonitis.

"The formation of the abscess," says Mr. H., "must have been preceded by acute inflammation of the vesicula which occasioned the extreme pain which was so prominent a feature at the time of the patient's admission into the hospital, and the date of its bursting into the bladder is fixed by the passage of pus from it, mixed with the urine. The time, also, when this pus made its

way into the abdominal cavity cannot have been far removed from the attack of hemorrhage from the urethra, which took place twelve days before death."

Mr. H. refers to another case communicated to him by Mr. Cock, having a close resemblance with the above in its earliest stage, in which he thinks there is every probability that an abscess had formed in the vesicula seminalis, and in which a fatal event was probably prevented by the timely evacuation of the pus by incision through the rectum.

The following paper is a minute history from day to day of "*A case of Albuminous and Fatty Urine*," by Henry Bence Jones, M. D. The whole of the details in relation to this case are highly interesting, but do not admit of any satisfactory analysis. Dr. Jones remarks—

"Cases of so-called chylous urine are so rare that no extended investigation of the complaint has yet been made. Indeed, no very minute investigation of a single case has as yet been published. Some minute chemical details of the present case were communicated to the Royal Society, and the chemical investigation of the fatty matter found in the urine will be the subject of a paper of Dr. Hoffman. The more purely medical part, consisting of the microscopical examination of the urine, of the history of the case, of the effects of the different kinds of diet to which the patient was restricted, and of the different medicines he took, form the subject of the present communication. The records of the treatment are the more interesting as the disease proved to be under the control of medicine; the urine returned to a perfectly healthy state. The patient resumed his occupation after giving up work for nine and a half months, and after the complaint had existed fourteen and a half months at least."

The concluding paper of the present volume of Transactions comprises some valuable "*Observations on the Prolonged Expiratory Murmur as a sign of Incipient Phthisis*," by Theophilus Thompson, M. D. We can spare room only for the following extracts from this interesting communication. Its practical value can be fully appreciated only after a careful study of it throughout.

"No argument,"-remarks Dr. T., "is necessary to prove that the indications, by which we may hope to detect the commencement of tubercular disease in the lungs, demand our special investigation. The earliest signs which can be traced by auscultation are, probably, first, the modification of the inspiratory murmur, sometimes denominated jerking, in which the inspiration appears to be effected by a succession of waves; and, secondly, a modification of the expiratory murmur, consisting in an apparent prolongation, and an increase of coarseness. A careful analysis of the cases under my observation illustrating the first of these signs, namely, wavy inspiration (*Monthly Journ. of Med.*, June, 1849), has led me, for reasons formerly given, to conclude that although it may not be a decisive proof of the existence of tubercular disease, yet it probably indicates the presence in the lungs of some deposit of impaired vitality; and is, moreover, a sign of great interest and value, as affording evidence of a condition in which the supervention of phthisis, although happily not certain, is nevertheless too probable, and in which the most vigilant attention is required to avert, by suitable means, a further process of deterioration.

"The relation of the second sign, namely, prolonged expiratory murmur, to pulmonary consumption, is much more direct and significant."

Dr. T. agrees with Mr. Walshe, in considering the duration of the natural expiratory sound equal to about the fourth of that of the inspiratory; but in the cases investigated with the view to this communication, he has not recorded the expiratory murmur as abnormal, unless it were equal in duration to at least one-third of the inspiratory murmur. He believes that in health the expiratory murmur follows the inspiratory immediately without a pause. The expiratory murmur, as disease advances, may gradually increase until its

duration exceeds that of the inspiratory. In proportion to its prolongation it usually becomes increasingly coarse in quality, and at last decidedly bronchial. A change of character probably accompanies the prolongation from its commencement, but is at first too slight to be positively appreciated.

It has repeatedly occurred to Dr. T., when hereditary phthisis has manifested itself in a family, to be able, on examining the respiration of the surviving members, to prognosticate the approach of phthisis from the prolongation of the expiratory murmur alone, in the absence of any other perspicuous circumstance, either local or general.

"Where," he says, "the expiratory murmur is altered, in consequence of emphysema or bronchitis, the extensive diffusion of the sign, and the other concomitant circumstances, will usually suggest a correct interpretation; and if we are careful to separate these sources of fallacy, I cannot but believe that the sign under review will prove no useless refinement; but one well deserving of careful attention; being the most early, significant, and conclusive of the evidences of incipient phthisis. It is no valid objection that the detection of the symptom requires close attention, since the object is to trace the first appreciable inroads of an insidious disease.

"When the prolonged expiratory murmur is heard extensively, or on both sides, unassociated with bronchitis or emphysema, there is great reason to fear, not only that the disease is phthisical, but that it will make rapid progress. When the change of murmur is limited to a small portion of lung, and the general condition of the patient is favourable, the evidence of phthisical disease is fully as conclusive; but there is ground to hope that, by careful regulation of diet, by securing exercise in the open air, by promoting healthy nutrition, and administering suitable remedies, such as iodine, iron, solution of potash, and cod-liver oil, more decided mischief may for a time be averted. I have reason to think that, under such circumstances, some years may occasionally elapse before softening takes place; and I cannot but believe that when this particular sign under consideration is more generally sought for in suspicious cases of phthisical tendency, the average duration of pulmonary consumption, in persons possessing means to avail themselves of necessary comforts, will be found considerably to exceed the period commonly assumed." D. F. C.

BIBLIOGRAPHICAL NOTICES.

ART. XX.—*Renal Affections, their Diagnosis and Pathology.* By CHARLES FRICK, M. D., Philadelphia: Lea and Blanchard, 1850.

THE subjects of the above work are attracting increased attention from their important relations to various pathological conditions of the system, every alteration of the renal secretion from the normal condition indicating a corresponding functional disorder of one or more of the organs of the body or of the vital processes. Every addition to our knowledge is therefore to be hailed as affording material assistance in investigating morbid changes, and aiding in the diagnosis and treatment of affections of an obscure character.

In the work before us, the urine and its relations are separately considered in six chapters, comprising a large amount of information embraced in a moderate space, and treated in a manner indicating considerable familiarity and industrious examination. The first chapter is of a preliminary character, and relates to the proper collection of the specimens of urine to be subjected to observation, and of such superficial examinations as may be made at the bedside, and which will frequently decide whether further and more accurate investigations will be necessary. The second chapter includes a consideration of normal conditions, and the deviations therefrom, and an account of different chemical methods by which an excess of a normal or the presence of an abnormal product may be detected, the precautions necessary in practice and the comparative value of each; and, in an appendix to the chapter, a few observations on rarer ingredients and tests of a doubtful character. The microscopic examination takes up the third chapter, and contains several illustrations of the different substances observed, which have the merit of actual observation, being drawn from the author's own specimens and characteristic of the usual forms as they are presented to the eye of the observer. The pathological condition indicated by the appearances of the urinary secretions or the practical applications of the preceding observations are contained in chapters four and five. Uric acid and urea, phosphates, sugar, &c., have their various relations examined and the different views explanatory of their derivation and formation, freely noticed and compared. Views are given of the connections existing between urea and uric acid of practical importance, and the explanations sustained by a review of the phenomena which accompany the increase or diminution of either product. Urea is conceived to be derived from the perfect oxidation of uric acid in the system, and when from any cause the supply of oxygen is not sufficient, or if the proportion of ingesta is too great or require a greater amount of oxygen, then this deficiency is perceived by the uric acid making its appearance in the urine, the kidneys being the appropriate organs to throw off this excretion. The practical bearing of this theory is exhibited in gout and rheumatism explanatory on the one hand of the prophylactic agency of exercise and on the other of the injurious effect of rich (containing much fat) living and the use of alcoholic beverages, the former increasing the supply of oxygen and the latter increasing the proportion of the matters to be subjected to oxygenation; not, however, resting the production of the disease on chemical laws and agencies, but considering the nervous influence also to be imperfect in its action. The other deviations from the normal condition are similarly treated of, and, under oxalate of lime, views previously expressed by the author are again reproduced, in which the dumb-bells, are considered in some cases if not all to arise from decomposition of uric acid after excretion by the kidneys; but whether this decomposition results in the production of oxalic acid or is some intermediate stage in its formation, is not yet made out. The work concludes by directions in chapter the sixth for the examination of urinary calculi. The whole work we consider as

creditable to the author, and are gratified to find his attention so strongly directed to these investigations, in which a large field is opened for exploration, and which he will no doubt cultivate with advantage to himself and the profession.

R. B.

ART. XXI.—*The Diseases of the Breast, and their Treatment.* By JOHN BIRKETT, Assistant Surgeon at Guy's Hospital, &c. &c. London, 1850: pp. 264, 8vo.

THIS handsome and copiously illustrated volume embodies the essay to which the Jacksonian Prize for 1848 was awarded by the Council of the Royal College of Surgeons of England. The author has availed himself of all the appliances of modern science in investigating the subjects of which he treats, including chemistry and microscopy.

The subject proper of the volume is prefaced by a very good account of the anatomy of the mammary gland. From this survey of the healthy structure of the organ, the author infers that there are *three* periods during which its statical condition varies very much, with the different capacities and offices of the breast at these several periods, and that the same division may be made in studying its pathological history. Accordingly, he treats in separate portions of the book of, 1st. "The diseases occurring before puberty; 2d. The diseases during the establishment of puberty. 3d. The diseases after the establishment of puberty." The latter section comprises those affections of the organ happening during pregnancy, the puerperal period and lactation; and such as may occur at any period or age subsequent to puberty.

Before puberty, the gland in both sexes is in a rudimentary condition, possessing no special function, its life-acts being confined to those of ordinary nutrition. The diseases to which it is subject at this age are not, in general, *peculiar*, but are such as may affect any tissue. The author has, therefore, very little to say concerning them; his remarks, after enumerating the anatomical peculiarities of the organ at this early period of its development, are comprised in brief notices of the following cases: 1st. "Abscess of the breasts in an infant twenty-five days old, preceded by secretion of milk in both glands." 2d. "Tumefaction of the breasts of an infant upon the cessation of hemorrhage from the vulva." 3d. "Abscess involving the mammilla at the age of three months." 4th. "Swelling of the breast in a child sixteen months old."

In the second period, as above defined, morbid actions, though rather more frequent than in the first, are still rare, and usually of a very mild character. The novel sensations which are experienced at this time in the breast—of fulness or heat—slight tenderness on manipulation—occasional shooting pain—can scarcely be called morbid. They are incidental accompaniments to the increased nutrition of the gland, by which the true gland-tissue is developed, a tissue possessed of a higher character than it enjoyed before. Sometimes, however, inflammation affects this organ, and Mr. Birkett has seen "chronic abscess form during this period of development in a very strumous girl." He admits, also, that carcinomatous growths sometimes occur at this period. Besides these affections, the gland is liable to neuralgia, to hypertrophy, and to a precocious development.

The third period of female life is infinitely the most prolific in diseases of the breast, and it engrosses, consequently, the volume before us.

A few pages are devoted to the *anomalies* in *the number and situation of the breasts.* The author has met with "one case of congenital absence of one of the breasts, unaccompanied by other malformations;" and several instances are noticed in which absence of one or both of the mammæ accompanied some other important organic deficiency—generally of the ovaries.

"*Pleiomazia,*" or a redundancy of mammary glands, is more frequent. Mr. Birkett has collected fourteen reported cases. "In one of these, five mammary glands existed. Most of the supernumerary glands secreted milk, although the women did not in all cases allow their infants to suck them." He quotes at

length some cases of multiple mammæ, and gives the names of the reporters, together with a bibliograph of reference.

The first disease of which the author treats is inflammation, and this is subdivided correspondingly with the different tissues of which the breast is composed. The author's remarks are judicious and interesting; but we do not observe anything in them which needs especial mention in a notice of this kind. The treatment which he particularly advises for inflammation of the gland consists in the free administration of *antimony* and saline purgatives, and in the application of leeches. By these means *resolution* may be induced. "But if called to a case in which suppuration appears inevitable—or, indeed, when there is reason to believe that pus has been formed, fomentations must be applied, and as soon as pus is detected by fluctuation a free opening should be made, and the contents allowed to escape. Pressure should not be used upon the part to expedite the flow of pus, but the opening ought to be sufficiently extensive to admit the ready efflux of the fluid, and perhaps somewhat solid contents. Lint, wetted with warm water, may be applied, and upon the second or third day—if the mamma be heavy, large, and pendulous—it must be strapped up with plaster, and well bandaged." We think that, in the foregoing, and also in the following paragraph, the author's views concerning the importance of supporting the breast are wise. "Most of the ill effects resulting from abscess—such as their consecutive formation and sinuses—occur for want of proper local support; and, therefore, in all cases in which the mischief appears to be deep, this plan should be adopted. Nor are poultices to be long continued, but only a small piece of wet lint is to be laid over the wound; even in the first stage of the attack, before there is any suppuration, strapping up the breast with plaster, and then bandaging it, prevents further mischief."

Several pages of this section are devoted to the subject of *chronic abscess*, with the hope of so defining the peculiar symptoms of this affection as to render it easily distinguished from "*new growths.*" But we do not see that this end has been gained, before suppuration has become evident. And indeed we can scarcely expect to be so far enlightened as to be uniformly certain of this point, unless perhaps by puncturing the suspected tumor with an exploring needle, and submitting the escaping matters to a careful microscopical examination. This the author has not attempted.

The next subject of which Mr. Birkett treats is "diseases depending upon the development of cysts and intra-cystic growths." The chapter devoted to this is full, and evidently the result of much study.

Two classes of cysts are pointed out as being distinctively characterized. 1st. Those which depend upon dilatation and a morbid condition of the lactiferous ducts or acini. 2d. Those produced by a peculiar action in the fibro-cellular envelop of the gland tissue, the consequence of a morbid state of nutrition. "Each class of cysts presents fluid or solid contents, perfectly characteristic, and differing essentially in their nature and origin."

The first group may be represented in any part of the gland, near the nipple, in the substance of the gland, or on its posterior surface. The author finds that the cysts are lined by a delicate membrane continuous with that of the milk ducts, and presenting an identical microscopic character with it. "Their contents are of a mucous nature, of a pale yellow, reddish, or dull green tint. They exhibit a granular basis, fat globules, milk globules, and colostrum corpuscles, with epithelium. The color probably depends upon decomposition, or the presence of hæmatin." Sometimes the contained matters are fluid, sometimes more solid; this latter condition, the author explains by the fact that in such instances the ducts are obstructed, or are entirely imperforate, so that the fluid matter has been absorbed, leaving the solid part of the contents only. Again, it happens occasionally that this solid residuum has been the exciting cause of inflammatory action, or at least of a modified action of some kind, whereby plastic matter is effused upon the walls of the cyst so as to attach to them, more or less firmly, the solid matters which they surround; this occurs, generally, at the points where the ducts branch. The size of these cysts varies—being, as is to be expected, largest when situated in those parts of the gland where the ducts are largest. The author explains their formation very satisfactorily: An

obstruction has occurred in the course of one of the milk ducts, giving rise, in consequence of the continued secretion within it, and perhaps also of a modified nutrition of the duct itself, to dilatations of the tube at different points; in the progress of the affection, the duct contracts at the intermediate points, leaving isolated sacs, which may be entirely cut off from all inter-communication by the entire obliteration of the intermediate channel.

He finds these cysts co-existing with almost all the forms of the other diseases to which the breast is liable—simple and malignant.

The second class spoken of by the author consists of true cysts, formed within the areolar tissue uniting the different lobes of the gland. Their contents are either fluid or solid, or both. Their formation is thus accounted for: The areolar tissue contains a certain appreciable amount of fluid in its meshes, as a natural condition; through some modification of nutrition, the quantity of this fluid has become increased, so as to constitute finally a tumour of notable size; and at the same time, the walls of the cyst thus generated become more or less developed and indurated. "The epithelium lining these cysts is peculiar. It presents a very beautiful appearance; each scale is of a hexagonal figure, more or less perfect upon its sides, and contains a single central nucleus. So marked is this epithelium that I have never failed to discover its presence, even in old and long-preserved preparations, of which I could make fresh sections. It is a characteristic mark of this form of cyst, and isolates it at once from all cystoid formations which may be found in the breast."

The fluid contained in the cyst is of two kinds, as found by Mr. Birkett—one limpid and opalescent, containing no albumen, the other tenacious, slimy, opaque, and variously tinted, though usually of a pale amber colour, and containing a large amount of albumen. In point of size they vary very much, sometimes attaining exceedingly large dimensions; they occur singly or in numbers, and at all parts of the gland.

But in addition to the fluid contents, and sometimes in exclusion of this, the cysts enclose a *solid growth*, springing from the cyst-wall, and yet always more or less connected with the gland tissue, having an *eccentric* development as regards the gland, and covered with the epithelial layer before described. These growths sometimes attain a very great size. They possess a vitality of their own; nutritious plasma is furnished to them; and yet, though in a measure independent of the influence controlling the healthy organism, they adhere somewhat to the type of the gland itself, the newly organized matter being deposited so as to simulate the lobulated structure of the gland—p. 79.

The author pays minute attention to this subject, and is careful to classify his observations according to facts. His remarks are comprised in several subsections, each devoted to a particular variety of the cystic formation, as it occurs single or multiple, with fluid or solid contents, or both combined.

We cannot follow him through these subdivisions, although they are evidently based upon observations of nature, and are important with reference to the treatment of the diseased condition. All the concomitant circumstances are carefully pointed out, and as complete a history, special and general, of each variety is given as is usually to be gained.

The subject of *hypertrophy* is very fully discussed. The author arranges his observations under the following heads: hypertrophy occurring at puberty; true hypertrophy in the adult; tumours composed of imperfectly developed gland-tissue, or lobular imperfect hypertrophy; the painful tumour of the breast, a mere variety of the preceding; and general imperfect hypertrophy. Thus an important step is taken towards a more correct classification of the enlargements of the mammary gland, and a clear insight is had of their true pathology. This chapter may be perused with pleasure.

The "*hemorrhagic diseases* of the breast" are briefly noticed, under the division of "ecchymoses in the sub-cuticular tissue, traumatic, and idiocratical; blood discharged from the nipple whilst suckling; blood effused into the interlobular cellular tissue, and containing coagula; and hemorrhages depending upon morbid growths." The most interesting point here is the development of tumours composed of fibre or areolar tissue, the fibres so arranged as to form a reticulated structure or an assemblage of cells communicating with large

veins, or, in other words, an erectile growth. Mr. Birkett considers them as essentially *new structures*, and not simply modifications of normal tissue. Though not unfrequent, perhaps, in the skin, and the tissues immediately beneath, he has met with only two recorded instances of their development in the gland itself, probably in the inter-lobular areolar tissue.

"*Hypertrophy of the adipose tissue and steatoma*" is next spoken of. Then follows the subject of diseases of innervation. He uses the word *mazodynia*, to signify "a painful state of the mammary gland;" and the conditions of the breast thus characterized he divides into those which are unaccompanied by *induration* of the gland, either with or without temporary enlargement; and such as are attended with induration, general or partial, and often, but not always, temporary. We see nothing here which is particularly noteworthy.

Next in succession we find *Atrophy* of the breast treated of—including a recital of several cases in which the modification of nutrition seemed due to the external and internal employment of iodine. Several diseases which seem to have some connection with atrophy, inasmuch as we generally find that this condition is associated with a *degradation* as well as a diminution of nutrition, are introduced in this part of the volume.

Sudden variations in the size of the mammary gland seem to be not rare. This phenomenon is generally due to derangement of the menstrual function, occasioned by some indiscretion on the part of the female. But the author quotes a case occurring under the notice of one of the French military surgeons, in Algiers, in which the sudden engorgement of the breast was induced by a chill of intermittent fever; this occurred repeatedly, and was always removed by the administration of quinine. A similar phenomenon is very commonly witnessed in the liver and spleen, but we never before heard of its occurrence in the breast.

Passing over many pages devoted to the modifications of the function of the gland, we come to the subject of *Cancer*.

We may observe, however, that the *order of succession* chosen by the author for the exposition of the diseases of which he writes seems to us to be a little irregular. His aim evidently is to *simplify* and *rationalize* the study of the affections of the breast; and he would have done better, we think, had he preserved a more uninterrupted order of sequence and association among all the diseases which depend upon the *same morbid process*, or upon some aberration or modification of *the same vital actions*. However, we are not disposed to criticise minutely for this mere difference of opinion concerning a point which does not involve truth, and with regard to which an author must be allowed to consult his own convenience.

Mr. Birkett does not pretend to give a full and complete history of *Cancer*. He details very well indeed the general and local evidences of the existence of a carcinomatous growth in the breast, of the variety termed "*carcinoma fibrosum*," and indicates the treatment which he thinks is most appropriate to this as well as to the other forms of cancer, in each stage of its development. He also gives briefly his views concerning its anatomy, mode of development, progress and termination.

We do not see that he has added any fact to the amount of our previous knowledge concerning this subject, with reference either to its pathology or its therapeutics. Nevertheless, as his views are those of a careful and honest observer, they should be respected, and be allowed their due weight in the scale of analysis and comparison with those of other investigators.

M. Birkett asserts very boldly and unconditionally the specific anatomical characters of Cancer and the possibility of its identification. He says, "The appearances observed in carcinomatous growths in the mamma are so variable, depending upon so many accidental circumstances, that it scarcely amounts to exaggeration to say that we rarely meet with two precisely alike. Nevertheless, they all present more or less general and characteristic features." Again, "The elements of which this structure is composed are so characteristic, that the identification of a growth of this nature no longer remains a matter of uncertainty or of doubt." He thinks that "the essential elements of carcinoma are nucleated globules and a fibre," the varieties of cancer—the carcinoma *fibrosum*, *medullare*,

colloideum—are due to the different proportions in which these two elements exist in the morbid structure—the greater the predominance of the fibre the harder the cancerous mass. In tumours of this class, two kinds are met with—one in which the minute bodies, "*nuclei*, predominate," the other in which the "nucleated globules or cells" seem to constitute the chief material between the fibres. The *carcinoma fibrosum* presents a large quantity of fibre-tissue with a preponderance of nucleated globules; the *carcinoma medullare* presents a very small quantity of fibre-tissue, with a preponderance of the nuclei." Besides these there are other elements met with in carcinomatous growths, which are not essential to them; these are *fat* or *oil globules*, caudate bodies which are now no longer considered as characteristic of cancer, crystals, "dead matter," capillary vessels, epithelial scales, and cysts.

There is such difference of opinion among the best pathologists and microscopists concerning the possibility of identifying carcinomatous structures in all their varieties and under all circumstances and stages of development, that we shall forbear any remarks concerning the views expressed by Mr. Birkett on this point. We do not think, however, that he has pointed out the microscopic characteristics, as he considers them, of Cancer, with sufficient clearness and distinctiveness to enable any other observer to recognize the same with certainty.

The volume closes with a brief glance at the diseases to which the male breast is liable. These are few and of unfrequent occurrence, as compared with those of the female.

We are happy to see announced for publication, by M. Birkett, a work on "*Tumours, their structure, pathology, diagnosis, and treatment.*"

F. W. S.

Art. XXII.—*Mental Hygiene; or an Examination of the Intellect and Passions. Designed to show how they affect and are affected by the bodily functions, and their influence on Health and Longevity.* By William Sweetser, M. D., *Professor of the Theory and Practice of Medicine in Bowdoin, Castleton, and Geneva Medical Colleges, and Fellow of the American Academy of Arts and Sciences.* Second edition, re-written and enlarged. 12mo. pp. 390. New York: George P. Putnam, 1850.

No system of hygiene can be considered as complete in which the consideration of the intellectual, moral, and impulsive faculties, sentiments, and propensities of the human mind is neglected; no just and practical estimate of the means of securing health, of promoting the due and symmetrical development of the various organs of the body, and of prolonging their vigorous and regular activity to the latest possible period, can be reached unless the reciprocation of mind and body be taken into account. While the healthful action of the mere bodily organs, and the proper exercise of their respective functions are essential to mental health, it is not less true that the health of the body is, in its turn, dependent, in a very great degree, upon that of the mind, as evinced in the due and regular exercise of its several functions. Hence mental hygiene becomes an important branch of knowledge in which all are interested—individuals as well as communities—inasmuch as an acquaintance with it, and the carrying into practice the laws which it inculcates, is essential to the health, comfort, and happiness of each citizen, and to secure the peace and prosperity of society generally.

In the work before us, Dr. Sweetser has presented a very able outline of mental hygiene, well adapted for popular use. The views he has inculcated are correct; they are expressed in a plain and pleasing style, and illustrated by apt illustrations derived from ancient and modern authors—from the pages of history, poetry, and science. There is much, it is true, in relation to the proper culture and control of the mental faculties, passions, and propensities, upon which Dr. S. has not touched, and many points connected with the influence that causes which act primarily and solely upon the corporeal organs exercise

upon the intellect and passions, which in a work mainly designed for popular use might have been profitably introduced.

"At no time," remarks Dr. Bell (*Report on Public Hygiene, Trans. Coll. Phys. of Philada.*, Vol. iii. No. 3), "before or since, has the salutary union between mental and bodily exercise been so fully recognized as in ancient Greece and Rome, where the gymnasia and baths were resorted to alike by the philosopher and the soldier, the youthful aspirant for fame and the staid citizen. Often the same persons might be seen passing from the instruction of the professed athletæ to the lessons of the sages and orators in the lyceum and the academy; thus, while they secured to themselves health and a bodily vigour which should enhance their personal enjoyments and civic usefulness as defenders of the state, they acquired also those accomplishments that give virtue and dignity to the individual, and by reflection to his country and age. However much we may choose to overlook this connection between mental and bodily purity and health, it is not less a portion of natural law; and if true of the one, it is equally so of the many; and if true in private, it is, *à fortiori*, more valid still in public hygiene. When the historian speaks of fermentation among the masses, the poor, the dissolute, and the reckless, in a city or State, his language is scarcely figurative, and he may very appropriately add that this tendency to outbreak and disorder is kept up, if it be not in a great degree produced by physical deterioration and taint; by impure air causing bad blood and disordered brain, added to filth and bad food continually irritating the nervous system, and giving rise to a host of abnormal sensations. It is no straining in causation to say that sickness or disorder in the body politic is often the manifestation, as it is the effect, of a neglect of public hygiene. So also, beyond all doubt, have nations been driven into war, with its ever-attendant horrors and atrocities, owing to the dyspeptic condition or splenetic humours of princes and ministers of state."

Dr. S. has not, it is true, neglected to point out the baneful influence exerted upon the intellect and passions by causes disturbing the healthful play of function in the animal organs—he has not, however, we think, noticed to the full extent that baneful influence when it is reflected from individuals upon masses—or in its direct operation upon the peace, happiness, and prosperity of communities. But he has performed so well the task within the limits he has prescribed for himself, that we feel rather inclined to commend to the notice of our readers this second edition of his work on Mental Hygiene, than find fault with him for omitting points which we may consider as important, for neglecting to trace all the ramifications of evil liable to result from the abnormal condition of the intellect and passions, or for not dwelling sufficiently upon the several causes by which that abnormal condition may be brought about.

D. F. C.

Art. XXIII.—*Household Surgery: or, Hints on Emergencies.* By John F. South, one of the Surgeons to the St. Thomas's Hospital. First American from the second London edition. 12mo. pp. 280. Henry Carey Baird, Philad., 1850.

This is a very comprehensive little book; and we doubt not that many honest women, into whose hands it shall fall, will, on beholding the formidable list of ills and accidents to which it professes to minister, exclaim, with uplifted hands and awe-struck eyes, as did the astonished Frenchman on a somewhat similar occasion, "Good heavens, what a host of enemies!" It contains notices, not only of the ordinary, trifling ailments of life, as "Blackheads, Ingrowing-nail, Corns, Stye, Wetting the bed," &c. &c., but also of the more important and more recondite affections and injuries, as "Fractures, Dislocations, Ruptures, Piles, Pustules on the Eye, Inflammation of the surface of the Eye, Milk Abscesses," &c. Moreover, it treats of the different methods of abstracting blood,

of Vaccination, of Bandaging, of Wounds in their various kinds and degrees, &c. &c. &c.; and of the appliances commonly employed in the local treatment of many complaints, as poultices, plasters, blisters and the like.

The volume was written and published, as the author says in the preface, for the benefit of those only who live remote from medical assistance, and of those who, at the moment of need, are unable to wait for or to obtain professional aid. Accordingly, its descriptions of injuries and diseased conditions are very concise, and couched in familiar phraseology, and the methods of treatment which it inculcates are as briefly exposed as the author's straitened limits require. If we consider merely that a certain amount of information must be conveyed within certain allotted pages, we cannot deny that Mr. South has fulfilled satisfactorily the requirements of his publisher, and given to the public as much, probably, as it can imbibe; but we cannot refrain from suspecting that the laborious translator and commentator of Chelius's *System of Surgery* is inwardly amused at the readiness with which he has satisfied both publisher and public.

We admit that such books may occasionally prove really serviceable to some of their readers; but we have not the least doubt, on the other hand, that they induce more frequently much injury, in their efforts to make "Every man his own doctor." It is indeed amusing as well as amazing, to see the besotted pretensions which ignorance displays after reading these publications. If a woman happen to have a leaky coffee-pot, she does not entrust its repair to her own skill, but straightway commits it to some reputable tinker; if, on the contrary, her child or her husband shall have broken an arm or dislocated a shoulder, she feels herself fully adequate to cure these serious accidents, because she has read the "Hints on Emergencies," by Mr. South, and the consequence too often is that the unfortunate victim of misplaced confidence is maimed or deformed for the remainder of its natural life.

If such books were read by those only for whom their authors profess to have written them, and in the circumstances for which alone they were avowedly intended, their mischievous effects would be more easily excused, and their influence would be less widely experienced. But, unfortunately, as their authors well know, and as too many of them anticipate, such publications have a more extended circulation, being greedily sought for, consulted, and confided in by those populous classes who are too conceited, too stupid, or too mean to employ an educated professional man, even when such an one is close at hand. Moreover, these books are generally intended to be the trumpeters to the public of their authors' renown. On these accounts, therefore, we regret and are surprised that Mr. South should have enrolled himself among such companions.

F. W. S.

Art. XXIV.—*Statistics of the Amputations of large limbs that have been performed at the Massachusetts General Hospital, from its establishment to Jan.* 1, 1850. By George Hayward, M. D., one of the Surgeons to the Hospital. Boston, 1850, pp. 15, 8vo.

In the No. of this Journal for May, 1840, will be found an interesting statistical report, by Dr. Hayward, of the amputations of large limbs which had been performed at the Massachusetts General Hospital, from the time of its establishment to Jan. 1st, 1840. Dr. H., in the present pamphlet, has republished this paper, and added to them a table exhibiting all the similar operations that have been performed from that period to Jan. 1, 1850.

The facts collected by Dr. Hayward constitute so valuable a contribution to the surgical statistics of amputations that we shall present his second table, with the deductions from it.

Amputations of Large Limbs performed at the Mass. Gen. Hospital, from Jan. 1, 1840, to Jan. 1, 1850.

No.	Name.	Age.	Time of admission	Disease or injury.	Time of operation.	Place and kind of operation.	Result.	Time of disch'ge or death.	Remarks.
			1839.		1840.				
1	John Nowland,	23	Nov. 26.	Compound and comminuted fracture of the thigh.	July 25.	Above knee—flap.	Died.	July 25, 1840.	
			1840.		1841.				
2	Stillman Hubbard,	32	Dec. 24.	Caries of elbow.	March 13.	Above elbow-circular.	Recovered.	April 3, 1841.	
			1841.						
3	Bridget Duffie,	50	Aug. 14.	Compound fracture of leg.	Aug. 14.	Below knee—circular.	Recovered.	Oct. 9, 1841.	
			1842.		1842.				
4	Samuel Brown,	56	March 14.	Osteo-sarcoma of hand.	March 19.	Below elbow-circular.	Recovered.	April 2, 1842.	
5	John F. Homer,	34	March 16.	Chronic ulcer of leg.	"	Above knee—circular.	Recovered.	May 5, 1842.	
6	Jedediah Little,	73	Oct. 18.	Chronic ulcer of leg.	Nov. 5.	Below knee—flap.	Recovered.	Dec. 26, 1842.	
7	Olwyn T. Jones,	19	Nov. 16.	Disease of knee.	Nov. 19.	Above knee—circular.	Recovered.	Dec. 29, 1842.	
			1843.		1843.				
8	Henry Walker,	14	May 4.	Tubercular disease of hand.	May 10.	Below elbow-circular.	Recovered.	July 5, 1843.	
9	Elizabeth Pickett,	17	June 10.	Disease of knee.	Oct. 14.	Above knee—flap.	Died.	Nov. 12, 1843.	
10	Edward Flagg,	45	Nov. 17.	Caries in stump.	Nov. 18.	Below knee—circular.	Recovered.	Dec. 16, 1843.	
			1844.		1844.				
11	Granv. D. Bragdon,	30	Nov. 7.	Disease of knee.	Dec. 14.	Above knee—flap.	Recovered.	Feb. 18, 1845.	
			1845.		1845.				
12	Thomas Smith,	53	March 6.	Compound and comminuted fracture of the leg.	March 6.	Above knee—circular.	Recovered.	July 1, 1845.	
13	Daniel Tarbox,	60	March 10.	Ulcer of leg—20 years.	March 15.	Below knee—circular.	Recovered.	April 22, 1845.	
14	Lewis C. Blaisdell,	31	April 15.	Compound and comminuted fracture of the wrist.	April 15.	Below elbow-circular.	Died.	April 19, 1845.	
15	Michael Welch,	24	May 19.	Scrofulous disease of knee.	June 17.	Above knee—circular.	Recovered.	Aug. 25, 1845.	
16	John Field,	40	July 17.	Compound fracture of leg.	Oct. 4.	Below knee—circular.	Recovered.	Oct. 29, 1845.	
17	Michael Devine,	21	July 25.	Compound and comm. frac. of leg.	Aug. 9.	Below knee—circular.	Recovered.	Sept. 9, 1845.	
18	Hector Holmes,	21	Aug. 5.	Gangrene from injury to thigh.	Aug. 16.	Above knee—flap.	Recovered.	Oct. 3, 1845.	
19	Thomas Doland,	25	Aug. 7.	Compound and comminuted fracture of the thigh.	Aug. 16.	Above knee—circular.	Recovered.	Oct. 18, 1845.	
20	John E. Barnes,	19	Oct. 17.	Ulcer, with contracted knee.	Nov. 8.	Above knee—flap.	Recovered.	Dec. 2, 1845.	
21	Eben C. Johnson,	12	Dec. 26.	Disease of knee.	Dec. 27.	Above knee—flap.	Died.	Dec. 28, 1845.	

A Table of the Amputations of Large Limbs—Continued.

No.	Name.	Age.	Time of admission.	Disease or injury.	Time of operation.	Place and kind of operation.	Result.	Time of disch'ge or death.	Remarks.
			1845.		1846.				
22	John Hooper,	10	Sept. 18.	Disease of knee.	May 23.	Above knee—flap.	Recovered.	July 2, 1846.	
23	Alice Mohan,	18	March 7.	Disease of knee.	Nov. 7.	Above knee—flap.	Recovered.	Dec. 22, 1846.	Inhaled sul. ether.
24	Theophilus Petier,	35	Nov. 16,'46	Compound and comminuted fracture of the leg.	Nov. 16.	Below knee—flap.	Recovered.	April 3, 1847.	" "
			1846.		1847.				
25	Ann Kerr,	18	July 8.	Periostitis of foot.	April 3.	Below knee—flap.	Recovered.	May 13, 1847.	" "
26	Catharine Crowley,	56	Aug. 3.	Necrosis of tibia.	Jan. 9.	Below knee—flap.	Recovered.	April 20, 1847.	" "
27	Fanny Abbot,	42	Dec. 23.	Disease of ankle.	Jan. 2.	Below knee—circular.	Recovered.	Feb. 23, 1847.	" "
			1847.						
28	James Mitchel,	27	Feb. 20.	Compound and comminuted fracture of the leg.	Feb. 20.	Below knee—circular.	Recovered.	July 31, 1847.	" "
29	Dennis Pickett,	30	April 6.	Compound fracture of knee.	April 7.	Above knee—circular.	Died.	April 9, 1847.	" "
30	Patrick Conny,	39	March 24.	Compound and comminuted fracture of the leg.	March 24.	Below knee—circular.	Died.	March 30, 1847.	" "
31	Patrick Kidney,	22	May 25.	Lacerated wound of arm.	June 8.	Above elbow—circular.	Recovered.	Sep. 2, 1847.	" "
32	Abner Johnson,	60	May 31.	Necrosis of tibia.	June 5.	Above knee—circular.	Died.	July 4, 1847.	" "
33	Francis Manuel,	19	June 14.	Disease of fibula.	Oct. 2.	Below knee—flap.	Recovered.	May 20, 1848.	" "
34	Jacob D. Edwards,	45	June 24.	Compound fracture of arm.	June 24.	Above elbow—circular.	Died.	June 24, 1847.	" "
35	Benj. Hammond,	39	July 12.	Disease of knee.	July 14.	Above knee—flap.	Recovered.	Aug. 9, 1847.	" "
36	S. H. Jones,	25	Aug. 27.	Fungus hæmatodes—leg.	Sept. 4.	Above knee—flap.	Recovered.	Oct. 28, 1847.	" "
37	Michael Sullivan,	34	Sept. 1.	Disease of knee.	Nov. 6.	Above knee—flap.	Died.	Nov. 12, 1847.	" "
38	Patrick Dorherty,	40	Sept. 2.	Compound fracture of foot.	Sept. 2.	Below knee—circular.	Died.	Sept. 3, 1847.	" "
39	Nathan Butler,	60	Sept. 15.	Malignant disease of elbow.	Sept. 18.	Above elbow—circular.	Recovered.	Dec. 13, 1847.	" "
40	John Madden,	25	Sept. 21.	Compound fracture of leg.	Sept. 27.	Below knee—flap.	Recovered.	Jan. 14, 1848.	" "
41	Peter Caton,	26	Sept. 27.	Wound of foot.	Sept. 27.	Below knee—circular.	Recovered.	Dec. 21, 1847.	" "
42	John Nightingale,	63	Sept. 29.	Malignant disease of arm.	Oct. 2.	Above elbow—circular.	Recovered.	Dec. 13, 1847.	" "
					1848.				
43	Michael Clark,	23	Nov. 27.	Gangrene from ligature of the femoral artery.	Jan. 10.	Above knee—flap.	Recovered.	Aug. 5, 1848.	Inhaled chloroform.
			1848.						
44	Michael M'Soley,	22	Feb. 13.	Disease of knee.	March 11.	Above knee—flap.	Recovered.	May 31, 1848.	Inhaled sul. ether.
45	Benj. T. Perkins,	33	April 7.	Compound fracture of knee.	April 7.	Above knee—flap.	Died.	April 12, 1848.	" "

46	Eliz. Phenan,	6	March 13.	Compound fracture of leg.	March 13.	Below knee—flap.	Recovered.	July 31, 1848.	Inhaled sul. ether.
47	James Smith,	20	March 31.	Comp'd and comminuted frac. of leg.	March 31.	Above knee—flap.	Recovered.	May 8, 1848.	Inhaled chlo. ether.
48	Dennis Casey,	28	April 28.	Injury to arms (powder).	April 28.	Ab. & bel. elb.—flap.	Recovered.	Aug. 4, 1848.	" "
49	Hannah Donovan,	30	April 27.	Compound fracture of foot.	April 27.	Below knee—flap.	Recovered.	Aug. 10, 1848.	" "
50	James M. Jones,	23	June 7.	Disease of knee.	July 15.	Above knee—circular.	Recovered.	Aug. 19, 1848.	Inhaled sul. ether.
51	John Canfield,	10	Nov. 8.	Compound fracture of foot.	Nov. 11.	Below knee—flap.	Died.	Nov. 18, 1848.	" "
52	Dennis Hurley,	36	Nov. 17.	Rupture of femoral artery.	Nov. 18.	Above knee—circular.	Recovered.	April 7, 1849.	" "
53	Timothy Lynch,	24	Dec. 7.	Gangrene of foot—accident.	Dec. 9.	Below knee—flap.	Recovered.	March 2, 1849.	" "
54	Lucy Thresher,	26	Dec. 15.	Malignant disease of hand.	Dec. 25.	Bel. elbow—circular.	Recovered.	Jan. 18, 1849.	" "
					1849.				
55	John Rogers,	23	Aug. 23.	Scrofulous disease of foot.	Jan. 18.	Below knee—circular.	Recovered.	Feb. 14, 1849.	" "
56	Zimri Heywood,	10	Dec. 11.	Disease of knee.	March 31.	Above knee—flap.	Recovered.	May 9, 1849.	Inhaled chlo. ether.
			1849.						
57	Thomas Doroty,	30	Feb. 11.	Compound and comminuted fracture of leg.	March 17.	Above knee—flap.	Recovered.	May 10, 1849.	" "
58	Bridget Shea,	28	April 2.	Scrofulous disease of foot.	May 2.	Below knee—flap.	Recovered.	July 4, 1849.	" "
59	Ann J. Prince,	17	April 3.	Ulcer of foot—16 years.	April 7.	Below knee—flap.	Recovered.	July 4, 1849.	" "
60	Morris Brown,	40	April 2.	Compound and comminuted fracture of leg.	April 2.	Above knee—circular.	Died.	April 2, 1849.	" "
61	Lawrence Britain,	22	April 7.	Compound fracture of arm.	April 7.	Above elbow—flap.	Recovered.	May 28, 1849.	" "
62	Andrew Hall,	27	May 8.	Compound and comminuted fracture of leg.	May 9.	Below knee—flap.	Died.	May 22, 1849.	" "
63	Caleb Kendall,	42	May 9.	Necrosis of femur.	May 30.	Above knee—flap.	Recovered.	Aug. 17, 1849.	" "
64	James Brady,	37	May 12.	Compound fracture of hand.	May 12.	Below elbow—flap.	Recovered.	July 22, 1849.	" "
65	James M'Koy,	39	June 19.	Compound and comminuted fracture of thigh and leg.	June 20.	Ab. and bel. kn.—flap.	Died.	June 20, 1849.	Inhaled sul. ether.
66	Charles Dennett,	34	July 20.	Compound fracture of leg.	Aug. 22.	Below knee—circular.	Died.	Sept. 3, 1849.	" "
67	Lawrence Mazenty,	25	Aug. 24.	Compound fracture of leg.	Sept. 11.	Below knee—flap.	Recovered.	Feb. 2, 1850.	" "
68	Thomas Dyke,	22	Sept. 4.	Malignant disease of fibula.	Sept. 5.	Above knee—circular.	Recovered.	Nov. 3, 1849.	" "
69	William G. Hunting,	33	Sept. 7.	Disease of knee.	Sept. 8.	Above knee—circular.	Recovered.	Nov. 30, 1849.	" "
70	Sylvest. O. Sullivan,	33	Oct. 6.	Compound and comminuted fracture of the leg.	Oct. 6.	Below knee—circular.	Recovered.	Dec. 25, 1849.	Inhaled chlo. ether.
71	Samuel R. Emmons,	48	Oct. 17.	Necrosis of femur.	Oct. 20.	Above knee—circular.	Recovered.	July 28, 1850.	" "
72	Daniel Hogan,	27	Oct. 23.	Malignant disease of thigh.	Oct. 24.	Above knee—circular.	Died.	Dec. 23, 1849.	" "
73	Theo. S. Cushing,	32	Nov. 27.	Ulcer, in cicatrix of burn.	Dec. 15.	Above knee—flap.	Recovered.	Feb. 7, 1850.	Inhaled sul. ether.
74	David Long,	21	Dec. 15.	Compound fracture of thigh.	Dec. 15.	Above knee—circular.	Recovered.	Feb. 1, 1850.	" "

It appears from this table that from Jan. 1840 to Jan. 1850 there were seventy-six amputations of large limbs performed on seventy-four patients, two patients having two limbs removed at the same time. One of them had one leg taken off above the knee, and the other below; and the other patient had one arm amputated above the elbow, and the other below. The first patient died, and the other recovered.

There were seventeen deaths: one of these was from tetanus, and another from phthisis. All the amputations of the lower extremity were above the ankle, and all those of the upper were above the wrist.

There were	35	amputations of the thigh,	and 10	deaths.
"	28	" below the knee,	and 5	"
"	7	" above the elbow,	and 1	"
"	6	" below the elbow,	and 1	"
	76	amputations.	17	deaths.

Ten of the amputations of the thigh were performed in consequence of injury, and twenty-five in consequence of disease, and five of each of these two classes of patients died; that is to say, one-half of the former and one-fifth of the latter.

On the five patients who died after amputation below the knee, the operation was performed in every instance in consequence of injury; and in the two fatal cases of amputation of the arm, the operation was done on patients who had severe compound fractures.

Forty of the patients had amputation performed in consequence of disease, and only five died; being one in eight; and the remaining thirty-four had been injured, and twelve died, being more than one-third.

"It is apparent, therefore," says Dr. K., "that the fatal result is not altogether attributable to the operation, but is in no small degree dependent upon the injury which the patient has received, or the peculiar state of system induced by it."

"There is one circumstance that has probably been observed by every one who has had frequent occasion to amputate for railroad accidents, and that is, the great tendency of the parts in the neighbourhood of the injury to slough after the operation. These accidents, when sufficiently severe to require amputation, are usually caused by a wheel of a locomotive engine or railway car passing over the limb. This in most instances produces a compound and comminuted fracture of the worst kind."

"If the operation be performed in the immediate neighbourhood of the injury, however sound the parts may appear to be at the time, they will in most cases slough to a greater or less extent, and leave the bone protruding beyond the soft parts, so as to require the removal of a portion of it at a subsequent period. This is on every account a very unpleasant result, and we cannot feel confident that it may not happen, unless the operation be done at a greater distance from the injury than it is usual to do it in ordinary cases of accident. The vitality of the parts seems to be destroyed to a greater extent than is common in similar accidents that are caused by a less degree of violence. Or perhaps it would be more proper to say that their condition resembles that which is spoken of by military surgeons under the name of local asphyxia, as sometimes occurring from gunshot wounds. It is a state of suspended animation, differing from death only in the fact that the power of resisting decomposition is for a time retained, but the debilitating effect of an operation is very sure to destroy this."

It appears that in one-half of the operations the circular amputation was adopted, and in the other half the flap. Nine of the former died, and eight of the latter.

Forty-eight of the patients inhaled some anæsthetic agent; twelve of this number died. It is well known that it was at this hospital that these agents were first successfully employed in general operative surgery; and so entirely satisfactory have been the results that no operation of any importance is now performed there without the patient being previously rendered insensible to suffering by these means. It may not be amiss to add that no fatal effects have followed their administration, nor has any serious ill consequence in a single instance ensued from it.

From these tables, it appears then that the whole number of amputations of large limbs that have ever been performed at the hospital is one hundred and forty-six on one hundred and forty-one patients. Of this number, thirty-two died.

Eighty-five had their limbs removed in consequence of disease; of whom ten died.

Fifty-six in consequence of injury; of whom twenty-two died; being one in eight and a half of the former, and more than one in three of the latter.

69	patients had the thigh amputated—	19 died.
50	had the leg removed below the knee—	10 died.
11	had amputation above the elbow—	1 died.
11	" below "	2 died.
141		32

The ages of the patients were as follows:

Under 20 years of age,	26,	of whom 4	died.
Between 20 and 30	56,	" 11	died.
" 30 and 40	28,	" 10	died.
" 40 and 50	18,	" 5	died.
" 50 and 60	7,	" 1	died.
" 60 and 70	4,	" 1	died.
Over 70	2,	" 0	died.
	141		32

Art. XXV.—*Summary of the Transactions of the College of Physicians of Philadelphia.* From August 7th to October 1st, 1850, inclusive. Vol. III. No. 3. pp. 126, 8vo.

This number of the Transactions of the Philadelphia College of Physicians is an exceedingly interesting one. The communications made to the college, and the reports of the discussions which it contains, show that the society is most zealously and actively engaged in cultivating our science, in extending its resources and usefulness, and in upholding its character and dignity.

We shall notice some of the more interesting of the communications.

Adulteration of Lac Sulphuris.—Dr. Meigs stated "that he had for a long time been accustomed to employ lac sulphuris, as much as would lie on the handle of a teaspoon, say from four to five grains, mixed with honey and water, as a prescription in the cases of costiveness occurring in infants. Given daily, he had found it to act as an effectual aperient; and in a short time has known its use to overcome entirely the costive habit. Recently, however, he had been much disappointed in the effects of the lac sulphuris in such cases, and upon instituting an inquiry into the cause of this disappointment, he has ascertained that it is in consequence of the lac sulphuris of the shops containing but one-half of pure sulphur, the remainder being sulphate of lime. This sophistication may be readily detected by the application of heat, when a black incombustible mass will be found to remain."

Dr. Bridges remarked "that the ordinary lac sulphuris of the shops contains but forty per cent. of pure sulphur. If a pinch of it be taken between the fingers, it will be found to have a soft feel, like that communicated by an impalpable powder, whereas pure lac sulphuris will have a gritty feel. The sophisticated article is also of a white colour, while the pure article is of a cream or even dirty yellow colour."

Coup de Soleil.—"Dr. Pepper called the attention of the College to the subject of the pathology and treatment of the affection known as *coup de soleil*, or stroke of the sun, as one upon which there appears to exist very loose and erroneous notions. In looking over the hospital records, he found that within the last seven years, twenty patients had been treated in the institution for stroke of the sun; of these, *ten* died, *seven* recovered, and *three* became affected

with a chronic affection of the brain, eventuating in insanity. These patients had all been bled before admission.

"The prominent symptoms of the disease are violent convulsions, with a thready, irregular, and sometimes scarcely perceptible pulse, and dilated pupil. In the intervals of the convulsions, the patient is often affected with muscular tremors, like those of paralysis agitans. The surface is rather cool than hot. Dr. Pepper had recently witnessed four post-mortem examinations of patients who had perished from stroke of the sun. The brain exhibited no indications of congestion, nothing, in fact, of an unusual appearance; Dr. P. was, however, struck with the appearance of the heart. In all of the four subjects it was pallid, flaccid, and softened, while the other muscles of the body were florid and firm. The lining membrane of the heart and of the large blood-vessels was of a very dark, almost purple, colour. The cavities of the heart contained but little blood, and no coagulum. Louis describes similar post-mortem appearances as occurring in rapidly fatal cases of typhoid fever. The examinations referred to by Dr. P. were made from six to eight hours after death. The softening of the heart and discoloration of the lining membrane were not the effects of commencing decomposition; they were evidently the results of disease.

"By many, the symptoms produced by exposure to intense heat are supposed to be the result of congestion of the brain. Apoplexy may unquestionably result from insolation, but the cases we usually meet with during the intense heat of our summers present no symptoms similar to those which result from cerebral congestion, and demand for their cure stimulants instead of bleeding.

"In all of the cases seen by Dr. P. which terminated fatally, death took place in six hours. In those who survived, recovery was very slow; the mind continued for some time very much confused; some became insane; one became affected with partial paralysis, and one with amaurosis.

"Stroke of the sun generally occurs in persons engaged in some laborious occupation, when exposed, for the most part, to the direct rays of the sun. By the combined effects of violent muscular exertions and the heat of the atmosphere, the heart is stimulated to a degree of morbid activity, copious perspiration flows from every part of the surface of the body, fatigue speedily ensues, and the heart, exhausted by its morbid activity, causes a passive congestion of the capillaries to take place throughout the body. The disease is evidently one of nervous exhaustion. The cases of apoplexy and congestion of the brain occasionally produced by insolation should be carefully distinguished from the cases above alluded to, the pathology and treatment of the two being very different.

"In five cases which fell under the notice of Dr. Pepper, all of which were treated by stimulants—ammonia and brandy internally when the patient could swallow, and stimulating injections when this was not the case—three recovered, and two died. Dr. P. considered it a remarkable circumstance that this affection has received so little attention on the part of medical writers. In consulting the standard authorities, we find but little said in reference to it, and that little generally vague and unsatisfactory. Dr. P. brought it forward now, that it may elicit from the Fellows of the College the attention it would appear to merit.

"By some it has been supposed that coup de soleil is the result of a sudden change, produced by the action of the sun's rays in the blood; the absence of organic lesions, and the fluid condition of the blood, have no doubt led to this belief."

"Dr. CONDIE remarked that he recognized the cases described by Dr. Pepper as of common occurrence during every summer of unusual warmth. They are ordinarily met with among those whose labours are carried on in the open air, without shelter from the heat of the sun. He believed, also, that they occurred most commonly in those labourers who are addicted to the intemperate use of intoxicating drinks. That in these cases the morbid phenomena are the result of exhaustion, he has never had any doubt, and cannot conceive upon what principle bleeding and other depleting remedies have been resorted to in their

treatment. When called to such a case, he has invariably directed cold to be applied to the head, sinapisms or stimulating frictions to the extremities, stimulating injections into the rectum, and so soon as the patient is able to swallow, stimulants internally. But there are another class of cases produced by exposure to the direct rays of the sun, of a very different character. In these, the head particularly, and often the entire surface, is intensely hot, the eyes are injected, and the pupils contracted; the pulse is small, quick, and corded, and the tongue red and dry. The patients are delirious, morose, or restless, and in a constant state of agitation. If this condition of things be not subdued by appropriate and active treatment, a state of coma ensues, and the patient dies, as in cases of acute meningeal inflammation. That these cases are dependent upon acute meningitis, Dr. C. has convinced himself by an examination of the brain after death. In this form of sun-stroke, active depletion by the lancet is demanded; stimulants internally administered would but aggravate the symptoms and accelerate the fatal result.

"He believes the cases described by Dr. P. to be produced by the exhausting effects of active bodily labour carried on in an overheated atmosphere. He recollects that in the winter of 1818–19, he was called to a coloured preacher of one of the methodist churches in the southern part of the city, who, during the severe bodily exertions, and loud and prolonged exhortations which constitute the religious exercises of these people, carried on in an overheated, crowded, and confined room, was suddenly seized with convulsions, alternating with almost constant nervous tremors; his pupils were dilated, his countenance was slightly flushed but relaxed, his pulse was feeble and thread-like, and his surface cool and clammy. By stimulating frictions to his surface, and the cautious use of stimulants internally, his convulsions were soon quieted, and his pulse increased in volume and strength; but he lay for two or three days in a languid and almost insensible state, from which he very slowly recovered; and, for many weeks afterwards, upon any undue exertion or excitement, he was liable to fall back into the same condition. In this case the disease was produced by the exhausting effects of undue exertion in a heated and confined atmosphere; and he believed that in those who are attacked whilst labouring in the open air, during the intense heat of summer, it is also produced by exhaustion, and not by any direct influence of the sun's rays, as some have supposed. That the direct influence of intense solar heat may produce congestion of the brain and apoplexy, Dr. Pepper admits, and Dr. C. has known it to produce also well-marked acute meningitis. A gentleman about to leave the city by steamboat was detained, in conversation with a friend, until near the hour of the boat's departure. Hurrying along at mid-day, exposed to the rays of a July sun, lest the boat, with his baggage on board, should leave him, he fell down in the street in convulsions. The convulsions were followed in a few hours by all the symptoms of acute meningitis. The gentleman's life was saved by active depletion by the lancet and cups, active purging, blisters, and the other remedies adapted to a case of encephalic inflammation."

Cases of Pseudo-Membranous Croup.—Dr. Pepper read the following account of two fatal cases of this disease.

"The first case was that of a little girl, aged six years. The disease commenced with slight hoarseness and some soreness of the throat; but the child continued to play about the house, and the symptoms were so slight as not to excite the least uneasiness on the part of the parents. The following morning I was requested to visit the child, and found it suffering with slight fever, huskiness of the voice, and occasional croupy cough. The fauces, soft palate, and tonsils were somewhat injected, but no trace of false membrane could be detected. An emetic of ipecacuanha was promptly administered, and this was followed by calomel, gr. vi; during the afternoon some twenty-five leeches were applied over the larynx, with evident relief of the symptoms. During the night she took a teaspoonful of the following mixture every two hours: syr. ipecac., syr. senegæ, ää ℥j. She was also directed calomel, gr. j, every two hours.

"On the morning of the third day of her attack, there was a decided remission of the most distressing symptoms; the hoarseness, dyspnœa, and fever had

all greatly abated, and hopes were now entertained that the disease had yielded; but towards evening the fever had increased, and with it there was a decided increase of the laryngeal symptoms. The voice had now become suddenly reduced to a mere whisper, the cough was muffled, and the dyspnœa extreme; the paroxysm, however, only lasted a few minutes, and was succeeded by a decided calm. Upon inspecting the throat, now, for the first time, patches of fibrinous exudation were seen upon the tonsils. These were touched with a solution of the nitrate of silver, in the proportion of twenty grains to the ounce of water, and after this free vomiting was induced by a large teaspoonful of powdered alum mixed in molasses. The child was also placed in a bath at the temperature of 95° F., and a small blister was applied over the larynx, and allowed to remain on only one hour.

"Late on the same evening there was a return of the distressing symptoms, and Dr. C. D. Meigs now saw the patient with me. At this time the voice was whispering, the cough suppressed, and the breathing more or less stridulous. The child being vigorous, it was deemed expedient to draw blood from the arm, and the blood thus drawn—amounting to about ℥iv.—presented a decided buffy coat. In this connection, I may, however, observe that the vesicated surface over the larynx had not become covered with the diphtheritic exudation so commonly seen in pseudo-membranous croup. Some relief followed the depletion, and the child passed a tolerably comfortable night. The following morning she commenced taking, every hour, a teaspoonful of tartar emetic solution, in the proportion of one grain to eight ounces of water. During the day the attacks of oppression became more and more frequent, and we were occasionally obliged to resort to the alum emetic and warm bath to relieve those paroxysms. The vomiting was always followed by temporary relief, but at no time was there any false membrane discharged, though occasionally the secretions of the fauces, coagulated by the alum, presented somewhat that appearance.

"On the fifth day of the attack, the dyspnœa, loss of voice, and stridulous breathing had become more permanent; the pulse was feeble, and the patient evidently more prostrate; there was slight œdema of the face, and the lips and nails were a little blue. She was now directed wine whey and chicken soup; and, in place of the tartar emetic, she took one of the following powders every two hours: antimonii sulphuret. præcip., grs. ii, potassæ nitrat., grs. xviii, calomel, grs. ii, divided into eight powders. No important change occurred in the case up to the following day, when at the time of visit there was another remission, and the patient really appeared better. The exudation had entirely disappeared from the palate and tonsils; distinct vesicular murmur could be heard throughout the lungs, masked only occasionally by sibilant and sonorous rattles; and the percussion over both lungs was perfectly natural. During the day, however, there was a return of the severe croupy symptoms; and at such times the little sufferer would tear at her throat in the greatest agony. Emetics, with the warm bath, and an occasional anodyne enema, afforded temporary relief; but about five o'clock the same evening, whilst emerging from the bath, she was seized with general convulsions, accompanied by dyspnœa, threatening immediate dissolution. I had left the patient but a few minutes, and on my return found that several medical friends had been called in during the alarm of the family. The pulse was frequent and feeble, the respiration hurried and laborious, and the child more or less cyanosed. Strong wine whey was now freely administered, whilst, at the same time, sinapisms were applied to the extremities. Under this treatment, the circulation and respiration were again, in a measure, restored, and the child's condition rendered far more comfortable.

"It was, however, apparent that another such attack must inevitably prove fatal. Other means having failed, tracheotomy now appeared to afford the only chance. The operation was not urged upon the parents, but was anxiously sought after by them. Accordingly, at six P. M., the child was placed upon the table, and the trachea opened by Dr. Goddard, in the presence of Drs. C. D. Meigs, Page, and J. H. B. McClellan. A folded pillow was placed under the neck, so as to bring the trachea into bold relief. An incision, about an inch and a half long, and nearly an inch deep, was necessary before the trachea could be exposed; several of its rings were now rapidly divided; but at this

stage of the operation there was some slight delay, owing to the necessity of applying a ligature to control the copious venous hemorrhage. When the trachea was first opened, the child had a convulsive movement, and rapidly passed into a state of perfect syncope; but from this it soon recovered, and the blood, which had been drawn into the bronchia by the acts of inspiration, was now forcibly driven out by the violent expiratory efforts. Small portions of the trachea on either side of the incision were now removed, so as to leave an opening somewhat larger than the rima glottidis; and this was kept open by means of a thick leaden wire passing under the neck, each end pressing upon the lips of the wound. By a delicate pair of forceps, several large pieces of false membrane were drawn out of the trachea, whilst any viscid mucus or other secretions which tended to obstruct the orifice were carefully removed by small pieces of moistened sponge. It was not deemed necessary or expedient to swab out the trachea by means of a small probang, as recommended by Trousseau; nor was a solution of the nitrate of silver applied to the mucous membrane, with the view of preventing further exudation. In fact, the respiration through the artificial opening appeared so free and easy that it was considered best not to resort to any apparently uncalled-for manipulations. To prevent the injurious effect of cold air coming in immediate contact with the sensitive bronchia, an elevated temperature of the air of the apartment was maintained throughout the after-treatment.

"About one hour after the operation, the pulse was 130, and the respirations about thirty in the minute. The temperature was also good, and the colour had returned to the cheeks and lips. The child appeared perfectly conscious, but of course could make no articulate sound or even whisper, since no air now passed through the glottis. She also swallowed with great ease the milk punch which was administered on account of the exhaustion consequent upon the operation. When small pieces of ice were placed in the mouth, they were eaten with avidity and apparent pleasure. Towards morning, however, there was an evident change for the worse; the fluids given by the mouth now passed into the larynx, and appeared at the wound, and thus tended to excite spasmodic cough; the pulse rose to 140, and became more feeble; and carpo-pedal spasms were almost constant. To relieve this spasmodic condition, several enemata of laudanum were administered, but without affording any relief. From this time the respiration and pulse gradually became more frequent and feeble, and the patient gradually sank, and expired at two P. M. the following day—just twenty hours after the operation, and about six days from the commencement of the attack.

"*Examination post-mortem the following day.*—Patches of false membrane were found adhering to different parts of the larynx, particularly about the ventricles; and the mucous membrane throughout was minutely injected and somewhat tumid, but not ulcerated. Commencing about one inch below the opening, the trachea was completely coated with firmly adherent plastic or fibrinous exudation, which extended into the large bronchia, and even into some of the minute ramifications. The small bronchial tubes were not, however, so completely obstructed by the false membrane as to preclude the possibility of air having entered the cells of the lungs during forcible inspiration. The exudation was, however, perfectly white, and exceedingly tough, so that it could be drawn out in small strips or shreds. The mucous membrane of the trachea and bronchia was in much the same condition as that of the larynx. No pneumonia or emphysema, or even congestion of the lungs could be detected. The right cavities of the heart contained a large and firm fibrinous concretion, which was prolonged for some extent into the pulmonary artery. The other organs appeared to be perfectly healthy.

"In the case narrated, the exudation did not commence in the fauces, as is most commonly the case in the diphtheritic form of croup, described by Bretonneau and other continental authors. This absence of plastic exudation on the tonsils, together with the fact that no false membrane was discharged in the act of vomiting, rendered it somewhat difficult at first to recognize the exact character of the disease. The vibratory sound mentioned by Barth and Roger as indicating the presence of floating false membrane in the larynx and trachea,

though carefully sought after, could not be detected in the present instance. The loss of voice, in connection with the stridulous breathing which supervened at the end of the second day, were well calculated to excite the worst suspicions; and it was those symptoms which led to the further examination of the throat, and the ultimate detection of the exudation on the tonsils. It is, however, by no means improbable that at first it was in reality a case of simple catarrhal croup, and that the exudation was but the ultimate result of a high grade of inflammation occurring in a vigorous child. This view of the case is more or less confirmed by the fact that no diphtheritic exudation was formed on the vesicated surface, as so commonly occurs in an asthenic condition of the system. In this case the character and extent of the false membranes were different from what occur in ordinary diphtheritis; they were tough and white, and extended far into the ramifications of the bronchia, whereas, in the few cases of diphtheritic croup that have fallen under my observation, the membrane has been ash-coloured, soft and pulpy, and in a great measure confined to the larynx and trachea. Guersent states that in not more than one case out of three does the false membrane extend into the bronchia. Dr. C. West, on the other hand, states that in England nothing is more common than to find the plastic exudation impacted into the small bronchia, and such is most unquestionably the case in the asthenic form in our own country.

"From the history of the case, it is by no means improbable that the inflammation invaded the bronchia, trachea, and larynx simultaneously, and gave rise to the rapid deposit of false membrane on the different parts of the mucous membrane. Under such circumstances, the application of caustic to the tonsils with the view of preventing an extension of the mischief to more vital parts could have been of but little avail. It is also quite evident that in such a case the operation of tracheotomy would afford only a very slight prospect of success; in the present instance, however, the true state of the case was only revealed after death. But a few hours previous to the operation, distinct vesicular murmur could be heard throughout both lungs; and from this the inference was fair that in all probability the bronchial tubes were unobstructed. Under this impression the operation was performed, and yet the autopsy revealed a considerable amount of exudation in the bronchia—not sufficient, it is true, to have prevented the development of the respiratory murmur heard so distinctly during life, but quite enough to have very materially interfered with the ultimate result of the operation.

"The next case was that of a boy aged five years; he was a delicate and feeble child, suffering with habitual enlargement of the tonsils. For the first six or seven days he had occasional cough and slight hoarseness, but was not considered sick, and had been allowed to play about as usual. The compound syrup of squill had been freely given with the view of inducing vomiting, but failed to produce the desired effect. No other treatment was pursued up to the night of the tenth day, when the child becoming alarmingly ill, Dr. F. W. Sargent was called in consultation with Dr. Spackman. They found him suffering with hoarse, stridulous cough; his breathing was laborious and noisy, his face flushed, skin hot and moist, voice reduced to a mere whisper; the pulse, though greatly accelerated, was not particularly full or strong. At this time the throat was carefully examined, but no exudation could be seen; the tonsils, however, were large and inflamed. An emetic of powdered alum was now directed, an onion poultice was applied to the neck, and the child was placed in a hot bath. Calomel, grs. ii, with Dover's powder, gr. ss, were to be given every two hours; and to relieve the spasm three drops of laudanum were also directed.

"On the following day the symptoms continued much the same, and fifteen leeches were now applied over the larynx, the alum being continued, occasionally, in emetic doses during the day; equal parts of powdered alum and sugar were also applied to the fauces every two or three hours.

"I saw the patient for the first time on the following morning, or on the twelfth day from the commencement of the attack. The lips and nails were now blue, and the respiration was permanently stridulous, and attended with rapid dilatation of the nostrils; pulse 120, soft and full; surface bathed with perspiration. The tonsils were coated with an ash-coloured exudation, and

were accordingly freely touched with a solution of nitrate of silver, in the proportion of grs. xv to the ounce of water; this solution was also applied to the glottis and posterior part of the epiglottis, by means of a small curved probang. A small blister was applied to the front of the neck, and allowed to remain on for two hours. The alum emetics were continued as before, as were also the calomel powders, in connection with syr. senegæ, ʒi, every two or three hours. For nourishment, he now took freely of wine whey and broth. The next day the child was more cyanosed; dyspnœa extreme; countenance anxious; and yet he appeared free from pain, and in a listless condition. The above treatment was continued, with the addition of gr. i carb. ammoniæ every hour; and as the disease was evidently fast tending to a fatal termination, the operation of tracheotomy was proposed. The father, however, had fully reflected upon this subject, and preferred leaving the child to its fate. It expired about noon of the same day—just thirteen days from the commencement of the attack.

"The body was examined the following day. There was considerable emaciation, so that the outline of the larynx and trachea were unusually prominent for a child of that age. On cutting down upon the trachea, no blood-vessels were found over the usual seat for opening this tube in cases of croup. The epiglottis and tonsils were coated with a thick grayish exudation, and this extended into the ventricles of Morgagni, and, in fact, throughout the entire larynx; but it was strictly confined to this locality, not a vestige of false membrane being found either in the trachea or bronchia. About the ventricles the mucous membrane presented a worm-eaten appearance; considerable œdema of the glottis also existed. The mucous membrane lining the trachea and larger bronchia was soft and injected, and completely covered with muco-puriform matter. Lungs, heart, and other organs perfectly healthy.

"In connection with this case, I may mention that an elder brother had died with this disease some days previously, and that a younger member of the family had been threatened with the same affection, which, however, was fortunately checked by the timely administration of an emetic, and the prompt application of the nitrate of silver to the tonsils. All the children of this family had enlarged tonsils, and were evidently of a scrofulous diathesis; the parents, however, were apparently perfectly healthy.

"In this case the disease was evidently more asthenic, and the appearances revealed by dissection were such as are most commonly found under these circumstances. The exudation was ash-coloured, soft, and pulpy, and limited to the larynx. No doubt this condition would greatly have favoured the operation of tracheotomy, since there would have been no obstruction below the orifice; under these circumstances, it is highly probable that the muco-puriform matter would have been readily discharged by the spasmodic cough which so constantly follows an opening into the trachea; or, at all events, these secretions could have been readily removed by small small probangs, whilst, at the same time, their further deposit could have been prevented by the alterative effects of a weak solution of the nitrate of silver instilled into the trachea, after the manner recommended by Trousseau. The prostration in the advanced stage of the disease was, in a great measure, the result of imperfect ventilation of the blood; and this difficulty once removed the child could easily have been sustained by stimuli. Besides, we should remember that in the present case the absence of adipose matter was exceedingly favourable to the operation. There is one interesting fact, however, in connection with this case, which was not alluded to when speaking of the symptoms: the day previous to the decease of the child, the state of the respiration was carefully examined, and not the least respiratory murmur could be heard over any part of the chest. From this, the impression at the time was that the bronchia were probably obstructed by false membrane; and it was this conviction which deterred us from urging the operation more strenuously. The absence of the respiratory murmur was evidently owing to the œdema of the glottis, and to the exudation in the larynx; and in this case, as well as the one first narrated, clearly shows the utter impracticability of arriving at any positive conclusion as to the exact condition of the bronchia in membranous croup.

"In regard to the cause of the disease in the last-mentioned case, there is

surely no good reason why the mere occurrence of a similar disease in several members of the same family should be referred to contagion. They all possessed the same character of constitution, and were exposed to like causes, and were therefore liable to the same ailments. These cases bore no analogy to the malignant sore throat which so often occurs during the prevalence of epidemic scarlet fever, and which not unfrequently extends to the larynx, and thus produces fatal croup; the laryngeal affection thus induced is of course quite as contagious as scarlet fever itself, since it forms but a part of a specific disease.

"But decidedly the most important question suggested by the history of the above cases is in reference to the operation of tracheotomy. Upon this subject, medical opinion is still unsettled—by some the operation being condemned under all circumstances, whilst by others it is advocated and urged prematurely. According to Trousseau, 'Il faut faire l'operation dès que nous avons aquis la certitude qu'il existe des fausses membranes dans le larynx;' and his reasons for thus urging an early resort to the operation are based upon the well-known facts that, at a later period of the disease, the exudation is more apt to extend into the bronchia, whilst at the same time the increased state of asphyxia, and the exhaustion consequent upon protracted treatment, would grealy tend to diminish the chances of the operation. All who are familiar with membranous croup are prepared to admit that, when once established, it is attended with great danger; but at the same time even the most desperate cases will occasionally recover under judicious medical treatment. Valliex states that in 26 out of 31 cases, treated chiefly by emetics, more or less false membrane was discharged; and that, of this number, 15, or nearly one-half, ultimately recovered; whilst, out of 22 cases treated without emetics, only 1 recovered.

"The success of the operation, in connection with the statement that tracheotomy, *per se*, is attended with no special danger, has been strongly urged in its favour. Bretonneau, out of 20 operations, had success in 6 cases; Velpeau saved 2 out of 10; and Trousseau, out of 112, had 27 recoveries—or about one-fourth of the whole number recovered. This success, however, is far beyond what has been attained in England, where, according to Dr. West, 'the result of almost every instance of the performance of tracheotomy in cases of croup has been so unfavourable that the operation is scarcely looked on as a justifiable proceeding.' These different results can only be reconciled by the fact that on the Continent the disease is most frequently confined to the larynx, whilst in England, as well as in this country, the trachea and bronchia are not unfrequently simultaneously involved. The number of cases of croup in which tracheotomy has been performed in the United States, is as yet too limited to enable us to arrive at any positive conclusions. Hitherto, it must be confessed, the operation has been viewed in this country with much distrust, owing, in a measure, to the unfavourable reports by British writers, and in part to the comparative want of success in the few cases in which it has been here performed. How important, then, is it that every case of tracheotomy for croup, whether successful or otherwise, should be placed on record, so that, in the end, we may be enabled to judge for ourselves as to the merits of this vexed question.

"Is it true that tracheotomy is, *per se*, unattended with danger? It is well known to the profession that the trachea has been repeatedly opened, for the extraction of foreign bodies, without giving rise to any untoward results; but, to say the least, it is exceedingly improbable that the short and plump neck of a child can be freely incised down to the trachea without endangering, in the least degree, the life of the patient, and more especially so in a case of croup, where the veins are enormously distended. And yet Trousseau has opened the trachea one hundred and twenty times without giving rise to any immediate bad effects; it remains, however, to be proved that the convulsions, copious hemorrhages, and frightful syncopes, which so often follow this operation, have not had much to do with the unfavourable results which followed in three-fourths of these cases. In the instance which I have just narrated, the hemorrhage was severe, and without great dexterity and presence of mind on the part of the operator, the child would have perished in a few moments.

"If, then, it be true that even the most desperate cases of membranous croup

do occasionally recover under judicious medical treatment, and if, at the same time, it is quite impossible to ascertain, with any degree of certainty, either by the general or physical signs, the condition of the bronchial tubes, it appears difficult to resist the conclusion that an operation so severe and so hazardous should not be performed except as a dernier resort."

"Dr. ASHMEAD remarked that during his residence in Paris, last winter, he heard but little of this operation, except from Trousseau, its great advocate and supporter. He had seen two operations at the Children's Hospital, one by Trousseau, in which the patient recovered, and the other by Guersant, in which the patient died. In the latter, the operation was performed in the advanced stage of the disease, while in the former it was performed early. It was the practice of Trousseau to operate at an early period, and hence, probably, his success. In England, and in this country, the operation is not considered justifiable until after all medical means of cure have failed; and this may be one reason why the results differ so widely from those reported in France. He also heard it stated in Paris that the measure of success was much greater in private practice than in the hospitals.

"Dr. Ashmead had performed the operation twice himself. In one case, where it was strongly urged by the family, he had operated on an only child in an advanced stage of the disease. The immediate result was most gratifying: the distressing dyspnœa was relieved, and the child fell into a pleasant slumber. In a few hours, however, the bad symptoms returned, and the little patient soon sank away. The parents, who were at first delighted, now became exasperated at the doctor, and he was obliged to get out of the way to escape their vengeance.

"Dr. A. fully agreed with Dr. Pepper as to the impossibility of forming an accurate diagnosis of the state of the bronchial tubes by auscultation, and considered this one of the objections to the operation. He had made up his mind never to recommend tracheotomy, and only to perform it when strongly urged by those most interested, and then always with the full exposition of its dangers and uncertainty."

Peculiarities of the Sphenoid Bone.—"Dr. NEILL called the attention of the college to certain peculiarities of the sphenoid bone, not described by anatomical writers. In the description of the bone given in the books, we are told that the pterygoid processes project downwards perpendicularly, which may be the case in a large proportion of the skulls of the European races. If, however, we examine a variety of specimens, we find that the perpendicular direction of the pterygoid processes does not invariably prevail. Thus, in the African, they are very oblique, running nearly parallel with the oblique line of the face. In the Mexican skull they are very nearly vertical. There will very generally be found a parallelism between the direction of these processes and the line of the face. In the fœtus they have the peculiar obliquity of the face; and in all races, the nearer the characteristics of the adult head approach those of the fœtal will the direction of the pterygoid processes be found more oblique. Dr. Neill was not aware that the fact just stated had any important practical bearing; the direction of the pterygoid processes will, however, have some influence upon the direction of the posterior nares, of which it is important that the surgeon should be aware. The more oblique the processes, the more oblique will be the posterior nares, which follow, of course, the direction of the former."

Poisoning from eating Peach-kernels.—The following case of this was related by Dr. Keating:—

"On Tuesday, the 10th of September, I was sent for, in great haste, to visit the child of Mr. B. in Gaskill Street.

"Upon reaching the house, I found that a little girl, of three years of age, who, up to the moment when I was sent for, had enjoyed excellent health, had come in from playing with an older brother, and suddenly placing her hand on her head, fell on the floor perfectly senseless.

"When I saw the child, she was lying on the bed insensible; respiration slow, deep, and sobbing; no convulsion of the limbs, but a faint, flickering motion was observable about the muscles of the lips; hands and feet were icy

cold; eyes prominent, pupils dilated; pulse slow and feeble; finger nails of a livid colour, and the hands slightly clenched. My inquiries elicited nothing from the mother which could account for the extraordinary condition of the child. Despairing of obtaining any clue to the case, and as a dernier resort, I applied my face to the child's mouth, and immediately recognized in her breath a strong odour of prussic acid. The idea of peach-kernels immediately suggested itself to my mind; and, upon interrogating her brother, I found that, previous to her coming into the house, she had managed to snatch from him a large quantity of peach-kernels which he had been preparing for his mother's use. He also informed me that he saw her put a large quantity in her mouth at a time. Convinced, then, that I had to deal with a case of poisoning by prussic acid, I immediately had recourse to the proper treatment. I dashed a small pailful of water upon the child's head and spine, and in a few moments had the satisfaction of seeing her take a full respiration, and evince some signs of returning consciousness. I immediately administered an emetic, consisting of five grains of sulphate of zinc and ten of powdered ipecac.; this was followed by copious emesis, consisting of a large quantity of peach-kernels, emitting all the peculiar fragrance characteristic of prussic acid. Sinapisms were also applied to the spine and to the extremities, and after the vomiting had ceased, I ordered thirty drops of the aromatic spirits of ammonia in water, to be repeated every half hour. The child appearing much relieved, and consciousness having entirely returned, I left the house.

"Upon visiting my little patient two hours after, and finding that the pulse was full and rapid, face flushed, conjunctiva injected, and that she was complaining of violent pain in the head, I took about three ounces of blood from the arm, and ordered cold applications to the head and an enema for the bowels. When I returned again in the evening, all untoward symptoms had vanished, and the child was playing about, and apparently as well as ever.

"Upon testing the contents of the stomach with the liquor potassæ and a solution of the sulphate of iron, the Prussian blue was instantly precipitated in abundance. From the condition in which I found the child, I have every reason to believe that had not the proper remedies been promptly applied life would have soon become extinct.

"As it is important to be able to diagnosticate at once the difference of the symptoms consequent upon poisoning by opium and prussic acid, I will enumerate those points which struck me most forcibly in this case.

"In the first place, the history of the case affords us a means of distinction, the rapidity with which the effects supervened, the rapidity with which the case terminated, and then the absence of blueness in the skin, and of the slow, full pulse.

"It may seem strange that an article which is so generally used, and of which, consequently, children must be constantly partaking, should so seldom manifest such serious consequences. In answer to this, we would suggest that the quantity eaten in this case was unusually large, and that as the peaches were exceedingly acid, it may be that the kernels contained an unusual quantity of the acid; or perhaps the child may have had some idiosyncrasy, by which she was peculiarly liable to the poisonous effects of the acid, even in the minutest quantity. Moreover, it is a question of much importance whether, perhaps during the summer months, numbers of children may not have succumbed to the fatal effects of this acid, without their real condition ever having been suspected. The accumulative effects of this poison have been generally denied; the rapidity with which death supervenes generally depends upon the quantity taken; it is generally thought, however, if a person live forty minutes after the poison has been swallowed, that the danger is over.

"It would be well for medical men to recollect that the bitter almond, cherry laurel, bird cherry, peach, the leaves and seeds of the nectarine and apricot, and the seeds of the plum and cherry, all contain some of this acid.

"Parents, then, should keep a strict watch over their children, for it is an admitted fact that half of the deaths of childhood occur from the kind and quantity of ingesta; and hence the mouth not only forms the avenue through

which the life-giving principle is received, but is also, unfortunately, the portal through which the fell destroyer most generally creeps in."

Appended to the number is the report by Dr. Bell of the standing committee on Public Hygiene. This is an elaborate and valuable paper on a subject the importance of which can hardly be overrated; one to which we have on several occasions endeavoured to draw attention, and on some future occasion shall again recur to it. At present, our limits will not allow us to do so, but we must now content ourselves with recommending the report of Dr. Bell to the consideration of the profession.

Art. XXVI.—*Woman; her Diseases and Remedies. A series of Letters to his Class.* By Charles D. Meigs, M. D., etc. etc. Second edition, revised and enlarged. 8vo. pp. 690. Philadelphia, 1850: Lea & Blanchard.

In this second edition of Dr. Meigs' well-known and truly original work on the pathology and therapeutics of the female, some important additions have been introduced, and some judicious amendments made. There is much in these letters that is valuable; the practical observations of one who has been so long and so extensively engaged in the active duties of his profession cannot fail to interest and to instruct, not merely the student but the practitioner. There are, it is true, portions of the work which we were in hopes would have been omitted in this edition—but as the author has thought proper to retain them, however much we may regret it as a matter of taste, we have certainly no legitimate right to complain. The parts alluded to are, however, objectionable only in regard to style, and from the fact that they are, in our opinion, altogether out of place in a grave didactic treatise on the diseases of woman, intended mainly for the instruction of the student and young physician. It is true, we cannot always agree with the physiological and pathological views of the author—ingenious as these must be confessed to be, and enforced as they often are by a most plausible series of illustration and an almost irresistible earnestness of exposition. The soundness of the practical directions of Dr. M., generally speaking, we most cheerfully acknowledge. We must point, however, to one instance in which we believe his therapeutical directions are calculated to mislead, and that is in reference to puerperal fever. The true pathology of puerperal fever is as yet far from being settled—cases, we know, do occur of so decidedly an inflammatory character as to call for the prompt and copious detraction of blood, and by which, in its early period, the disease will, in the majority of cases, be cut short. Had Dr. M. confined his remarks strictly to this form of the fever, we should have come to dispute their correctness; but, if we understood him aright, he considers early and copious blood-letting as the remedy mainly to be depended upon in all cases of puerperal fever. Now there certainly have been epidemics or rather endemics of this disease, in which no indications warranting a resort to were present, and the cases in which blood was drawn at the commencement of the attack invariably terminated fatally. Under the general denomination of puerperal fever, we believe that there have been included diseases differing from each other somewhat widely in their pathological character, and each demanding a different treatment.

With all its faults—real or presumed—the work of Dr. M. is certainly calculated to impart valuable instruction to the student, and cannot be consulted even by the practitioner without profit. D. F. C.

ART. XXVII.—*Practical Ventilation, as applied to Public, Domestic, and Agricultural Structures, being an Elucidation of Plans and Suggestions, of easy application, for ventilating every Species of Architectural Structure, with Remarks on Heating, Construction of Fire-places, Cure of Smoky Chimneys; and an Appendix on the Ventilation of Ships, Steamboats, and Railway Carriages.* By ROBERT SCOTT BURN, Engineer. London and Edinburgh, 1850. 12mo. pp. 208.
Useful Hints on Ventilation; explanatory of its Leading Principles, and designed to facilitate their Application to all kinds of Buildings. By W. WALKER, Engineer. 12mo. pp. 131. London, 1850.

THESE are highly useful treatises, written by competent persons. The subject of ventilation is one of vital importance, and the best means of accomplishing it, under various circumstances, must constitute one of the chief studies of all who are interested in promoting sanitary reform. The main objects sought to be accomplished have been ably pointed out by members of the medical profession, who are, of course, the first to recognize the evils flowing from want of the means of getting rid of foul air, and of efficient methods for supplying fresh air. Intelligent architects and engineers have exercised their ingenuity in devising and perfecting plans for these purposes, and the two little works named at the head of this article, with their accompanying drafts and sketches, are valuable contributions to the subject.

Many years have elapsed since it has been demonstrated that the inhalation of the impure air which had been previously expelled from the lungs exerted a most deleterious effect upon living beings subjected to its influence: still it has been only quite recently that the importance of getting rid of foul air, and securing a free supply of fresh air in dwellings, and houses of every description, has been fully recognized. It cannot be too generally made known that the supply of pure air to the lungs conduces not only to the proper health of the body, but to the best performance of the mental faculties. The brain and other nervous centres from which emanate thought and motion cannot communicate to the great functions of life the highest measure of energy and activity adapting them to the performance of their happiest efforts, if supplied with dark and partially decarbonized blood. When even temporary exposure to impure air is fraught, as we know it is, with so much inconvenience and distress, what must be the measure of permanent disability and real disease resulting from protracted exposure of living beings in too small or too crowded houses, shops, manufactories, ships, prisons, work-houses, hospitals, &c. The answer has been often given in the history of plagues, in all ages, and in the modern bills of mortality, and though less conspicuously, not less certainly in the hereditary diseases, and susceptibilities, and malformations so common in every crowded population. Admirable reports have been made within a few years to the British Parliament, by committees appointed to investigate the sanitary condition of large towns, who have made appalling statements of the mischievous effects arising from imperfect ventilation. Individuals have added their efforts, and by such combined means the English public have become enlightened, and the aid of practically scientific men has been called into requisition, to devise the best plans for removing evils under which the human family has so long suffered. Legislative action has given a great impetus to the movement, by granting the necessary authority to open blind courts and narrow alleys, and to lessen the density of population in some cases where this could be effected. Philanthropists have been shown that they might lend those efforts, so promptly bestowed upon alleviating the condition of the impoverished sick and infirm, by showing how their dwellings might be improved and disease prevented.

G. E.

QUARTERLY SUMMARY

OF THE

IMPROVEMENTS AND DISCOVERIES

IN THE

MEDICAL SCIENCES.

ANATOMY AND PHYSIOLOGY.

1. *On the Structure of the Muscular Substance of the Heart.*—The following important observation is by Remak. The facts observed by him are best seen in the thin muscular layers which can be procured, especially in sheep, from the commencement of the great veins of the neck or the pulmonary veins. Two sets of muscular fibres can be distinguished; some which run parallel, and others which are between these and interlace, connecting the adjoining parallel fibres to each other. The network formed by the connecting or intermediate fibres differs in complexity in the different parts of the heart, auricles, ventricles, &c. Sometimes, instead of these intermediate connecting fibres, the sides of two parallel running fibres approach and fuse into each other (*eine partielle Verschmelzung der Ränder zweier Hauptfasern*). The intermediate fibres are often much smaller than the parallel, and of variable strength; occasionally, as in the ventricles, they are as large as the parallel fibres; it is then very difficult to make out the arrangement; yet in no place, either in the auricle or ventricle, is this arrangement wanting. This observation of Remak's has been confirmed in Wurtzburg by Virchow.—*Med. Times*, Sept. 7, from *Müller's Archiv.*, 1850. No. II.

2. *The Terminations of the Olfactory Nerve.*—Dr. Hon describes the terminations of the olfactory nerves as being easily seen by taking a piece of a frog's nasal mucous membrane, placing it between glass, and examining it with a power of from + 216 to + 300. The extremities of the nerve-fibres, sometimes dilated and forming club-shaped processes, can be seen at their extremities, winding round and sometimes returning to the parent branch. Besides these, other nerves with broad diameters are seen passing in various directions, and present the characters of fine cerebral fibres.—*Med. Times*, Sept. 7, from *Müller's Archiv.*, 1850. No. II.

3. *On the Structure and Physiological Uses of Peyer's Glands.* By Ernest Brucke.—In the autumn of 1849, Brücke made some attempts to inject the most minute lymphatics of the bowels, by forcing oil of turpentine, coloured with alkanet root, into a portion of the intestinal tube of the cat. After the pressure on the piston of the syringe had been for a short time maintained, he observed that some of the lymphatics of the mesentery became filled, and that the coloured oil passed through the so-called *pancreas-asellii;* and finally reached the *receptaculum chyli* and thoracic duct. On more minute examination, it was found that the only trunks of the lymphatic system injected were those which took their origin from the neigbourhood of the glands of Peyer. These trunks were formed by the union of minute arborescent branches, which obviously ran on the surface of the bowel, and whose finest twigs proceeded from

the glandular patches. A reddish tinge was distinguishable in the interior of some of the small glands, but was more distinct in the narrow interstices between them. Brücke supposed that by distending the cavity of the bowel, he had succeeded in rupturing the capsules of Peyer's glands, and that the injection had, through these breaches, passed into the lymphatics. This view was confirmed by other experiments, in which a column of fluid was substituted for the injecting syringe. There was no extravasation; and the uniform way in which the injection ran, commencing in a reddish point in the gland, and then proceeding by minute channels to form an arborescent network, terminating in trunks, which proceeded through the mesentery, seemed to indicate that the fluid passed by natural canals. The success of these injections suggested the inquiry, how far the glands of Peyer resembled lymphatic glands. Brücke was aware of the views on the structure of lymphatics held by Professors Ludwig and Noll, of Zurich, which the former had shortly before communicated to him. "Each vas inferens," writes Ludwig, "before entering a gland divides into numerous small twigs, each of which, on piercing the *membrana propria* of the gland, loses its coats, and pours its contents into the cavity of the gland, which is traversed with delicate and incomplete septa of fibrous tissue, and filled with all kinds of lymph-corpuscles. The vas efferens is formed in like manner by the reunion of minute twigs." On examining Peyer's glands, Brücke found great numbers of lymph-corpuscles, cytoblastsand cells, undistinguishable from the contents of ordinary lymphatic glands. It remained to trace, with the assistance of the microscope, the supposed connection of Peyer's glands with the lymphatic system. He found that many of these glandules presented, on their side next the peritoneum, a prolongation, ending in a delicate bundle of fibrous tissue, attached to the capsule of the gland. These bundles, after the addition of acetic acid, were seen to contain dark nuclei, similar to those observed in the glands themselves. No trace of a vessel was seen within the bundles, unless the fibres themselves were arranged so as to form a sort of tube. Brücke points out that similar bundles of fibres are connected with the villi, and argues that they must be the channels by which the lymph is conveyed from the villi to the trunks of the lymphatic system. Whether each bundle forms a conduit for the chyle, or whether the fluid insinuates itself betwen the individual fibres, drawing along with it the nucleated and fatty elements of the chyle, may admit of question. Brücke thinks that the whole so-called "submucous tissue" consists of these bundles and connecting fibres, with nothing in the shape of a vessel, except the blood passages.

He concludes his very interesting memoir as follows:—"It is ascertained, 1. That the chyle ducts may be injected through the glands of Peyer, and that observation of the course followed by the fluid injected proves that it passes in natural and not in forced channels. 2. That the cytoblasts which fill Peyer's glands are like those in the mesenteric glands; and during resorption form cells resembling the lymph-corpuscles. 3. That Peyer's glands are connected with thread-like structures, resembling those proceeding from the villi, and constituting the passages for the chyle; for in the submucous tissue nothing else which could serve such a purpose has been detected; and a system of vessels, proceeding from sources so numerous as the villi, and of course containing such a mass of fluid, could not have escaped observations such as have been recently made.

"The opinion which I pronounce, that Peyer's glands are lymphatic glands, situated in the wall of the intestine, and destined to elaborate the first organized elements of the chyle, may be erroneous; for almost all physiological conclusions, founded upon morphological investigations, attended with great difficulties, and not satisfying all conditions of inquiry, may lead to error; but I consider that the extent and the results of my inquiries have been such that I am entitled to submit an opinion, upon the correctness of which other observers may decide."—*Month. Journ. of Med. Sci.* Nov., 1850, from *Ueber den Bau und die Physiologische Bedeutung der Peyerischen Drüsen. Von Ernest Brücke. Wien*, 1850.

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4. *Of Repair and the Imperfections or Limitations of Cure.*—Dr. William Addison, in an interesting paper "On the Containing-texture of the Blood," makes the following important remarks relative to repair of injuries in the organism:—

"The characteristic pittings of small-pox, and the analogous marks which may be found remaining after a severe application of antimonial ointment to the skin, not only point out upon what texture the morbid action has been concentrated, but they indicate—as do the scars and seams of a burn—that the parenchyma of the glandulæ is not restored or reconstructed by the process of repair, which fills the void, not by restoring the destroyed or lost form, but with simple fibrous tissue. Pathological anatomy has long demonstrated analogous facts in the mucous membranes; and it appears from our observations in these and other examples of repair or cure, where an original or germ-form has been destroyed, that, with the original form and substance, *the principle* governing the natural distribution of the blood-vessels has also departed; for the arrangement or disposition of these in a scar or a cicatrix, in granulations and lymph, appears to us never to be the same as it was in the unimpaired original growth. Such being the facts, we have, in these instances at least, no evidence of a repetition or revival of the 'germ force.' On the contrary, we see only effects arising from those qualities of blood which, wherever blood extends, originate a limiting or bounding texture, a correlative of blood, the first phase of which is *corpuscular*, and the concluded form *fibrous*. These imperfections or limitations of cure in the skin may be of little consequence to the welfare of the person; but in mucous membranes and internal organs they become of much more importance: and allied to these in their consequences upon the general or constitutional health are the unnatural fibrous adhesions which very frequently attend the cure of severe inflammation on the free surfaces of fibrous membranes. But we have elsewhere spoken at length upon this part of our subject,* and are, therefore, content with the following summary:—

"The first phenomenon of repair is inflammation, cells, and cell-growth interpolating fibrous texture. The second phenomenon of repair is the cure of inflammation; natural fibrous forms abolish and exclude the cell-growth period. But there is often a pause between these two periods. Inflammation subsides, but cure does not advance: unnatural cell-growths maintain their footing, but they do not spread. *This is scrofulous disease*—a persistent form of retrograde metamorphosis.

"Finally, the human body, regarded *analytically*, is composed of three great systems of organs—sentient, motor, and secreting—nourished by the circulation of the blood, and sustained by the coherency of textures, correlatives of blood. In this point of view we have sought to determine the seat of inflammation, and to extricate its definitive phenomena from their complications with the elements and physiology of the parenchymatous substances. Desirable as this is on many grounds, particularly as interpreting pathological appearances, we must remember that analytical views are unsatisfactory in the practical treatment of disease; because, in the first place, such is the minuteness of the scale upon which different physiological substances commingle and are co-ordinated, that there are everywhere in the living structure, *and within microscopic areas*, elements of the common and of the specific: so that if disease fundamentally begin in the one, it affects the other before it can become an object of practical interest or regard: and in the second place, *synthetically* viewed, all the various elements of the living body are so mutually incorporated and interdependent, that the whole of them form but one person. Look at the relations between *sentient* and *motor* elements. Muscles act instantaneously upon the dictates of the will; but disturb sentient matter, and muscles are divorced from the dominion of the will; they remain quiescent, and waste away. Are not muscles, then, exquisitely sensitive? *Sentient* and *motor* elements are both incorporated with the simple fibres of the *fibrous tissues*, and immediately feel the influence of the first inroads of inflammation. In the deep interior of the brain *sentient elements* are brought into such close and mysterious relations with the *elements of blood*, that the ordinary form and character of the limiting tissue of the blood is dispensed with, a kind of embryonic type of circulation here prevailing. Blood and medullary matter seem in this instance to have nothing interposed between them. In the *secreting organs, and within micro-*

* Healthy and Diseased Structure, part ii., ch. 2.

scopic areas, multitudes of the *secreting cell-particles* are attached to the *containing texture of the blood;* and in the liver the same continuous relations are thought by the best anatomists to prevail between the *secreting elements* and the *venous blood*, as appear to exist in the brain between *sentient elements* and *arterial blood*. It is these synthetical relations which prove to us how dependent every part of the body is upon the circulation of blood, and deprive analytical investigations of the extensive influence which otherwise they must have had upon the art of therapeutics. In the embryo, *germ-masses* or groups of sentient, motor, and secreting elements are founded prior to the flowing of the blood current, but the growth of blood-vessels, of fibrous textures and bones, upon which the relations of forms and functions depend, is posterior to the circulation; and the healthy constitution of these textures hinges upon a normal metamorphosis of the elements of blood. Such being the facts, what, then, replenishes and maintains the circulating fluid?

"In answering this question, we enter upon another and a widely different sphere.

"Food, drink, and air, incorporate with blood. Here we pass from the department of the living body to the world of external nature: and it is to be observed that the elements of the one cannot be said to be *more necessary to the phenomena* of life and health than are those of the other; for the body dies as soon deprived of air as it does deprived of blood."—*Lond. Med. Gaz.*, Sept. 20th, 1850.

ORGANIC CHEMISTRY.

5. *On the Salts contained in Cholera Evacuations.* By Dr. Guterbock.—The following are the author's conclusions, drawn from the chemical examination of the stools in cholera:—

1. A most remarkable circumstance is the large proportion of water, amounting, on an average, to 98.119; while, according to Berzelius, normal stools contain 75.3. The specific gravity, too, is remarkably low, varying from 1006 to 1008; the urine itself, in but few diseases, manifesting so low a one. 2. The solid constituents amount on an average to but 1.581. 3. Among these, the inorganic *salts* constitute by far the largest portion—upon an average 4-5ths, the organic matter being only 1-5th—a proportion that is the reverse of the normal, in which the organic parts form 19-20ths according to Berzelius, and 9-10ths according to Rose. 4. Among these salts the most remarkable is the *chloride of sodium*, constituting, upon an average, nearly ½, and, in some cases, 2-3ds, of the whole. The cholera stools contain nearly ½ per cent. on an average, while, according to Berzelius, the normal proportion is but 0.28; and according to the latest analysis of solid excrement, by Rose and Fleitmann, this proportion is even unusually large, as in 100 parts of the entire salts, only 1-58th were chloride of sodium. Thus the cholera stools contain a hundred times as much salt as the normal; and, indeed, so considerable is the quantity that, after the evaporation of the fluid, the unassisted eye recognizes the characteristic crystals. 5. Next to this the *carbonate soda* is most abundant, and besides these are some phosphate of magnesia and lime, and a trace of the sulphate. The absence of *potass* in the stools is remarkable, forming, as it does, a chief saline constituent in the normal solid stools. According to Rose and Fleitmann, these contain 22.49 per cent., while in the cholera stool only a trace is detectible. 6. The organic matters of cholera stools consist in great part of mucus and the remains of epithelium, and it has generally been believed that they are rich in albumen. The experiments of the author and of Corenwinder contradict this, for they either found it entirely absent, or mere traces present. Masselot (*Gaz. Méd., No.* 14, 1849) states that he found a considerable quantity; but as the stools were compared to soup in colour they probably contained blood—an important point to be borne in mind during investigations for albumen. In almost all cases a small quantity of casein is present, especially in stools removed after death. 7. The abdominal discharges were always alkaline, but the *vomits*

neutral, or slightly acid. These latter, too, contained a still larger proportion of water, viz., 99 per cent., and were little above the specific gravity of water. Upon an average, the salts constituted about a half of the solid matter, but the proportion between these and the organic constituents was not so constant as in the alvine evacuations. So also the proportion of chloride of sodium varied, but it never exceeded that of the other salts. No albumen was present. 8. The contents of the bowel thus appear to become changed in their passage, not only by the presence of broken epithelial scales, but also in chemical composition, being richer in organic constituents than when they have passed the anus. 9. It is to be expected that the increase of chloride of sodium in the stools is cotemporary with the diminution of the substance in the blood noticed by O'Shaugnessy, Rayer, and Mulder; but the cessation of the epidemic prevented Dr. Güterbock examining this point for himself. Supposing future researches to affirm it, it is only one step towards explaining an increase, which, compared with Rose's analysis of normal excrement, is a hundredfold. According to this chemist, a large portion of the chloride of sodium is excreted in the urine, almost 600 times as much as in the stools; and the arrest of the secretion of urine during cholera may explain the enormous increase in the stools.—*Brit. and For. Med.-Chir. Rev*, Oct. 1850, from *Poggendorf's Annalen*, Bd. lxxix.

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6. *Influence of Salt Diet on the Composition of the Blood.*—Poggiale has examined the blood of man, both at the time that the usual diet was taken, and whilst 154 grs. of salt were consumed daily. The following are the results:—

	During usual diet.	During salt diet.
Water	779.9	767.6
Blood-corpuscles	130.1	143.0
Albumen	77.4	74.0
Fibrin	2.1	2.3
Fatty matters	1.1	1.3
Extractive and salts	9.3	11.8

From which it is evident that the proportion of solid constituents are increased; this occurs chiefly in the blood-corpuscles and extractive, the amount of albumen being slightly diminished.—*Compt. Rendus*, xxv.

Boussingault has also extended his observations concerning the influence of salt on the fattening of cattle. His earlier experiments had shown that salt does not exert that beneficial influence on the growth of cattle, and the production of flesh, which is usually ascribed to it. His present experiments have been extended over a period of thirteen months, and have been made on a number of steers, some of which had their rations salted, while the other had not; in other respects they were treated in a precisely similar manner. The results have shown that the increase in the proportion of flesh does not pay for the salt employed. Boussingault, however, remarks that a saline diet exerts a beneficial effect on the appearance and condition of the animals; for the steers which were deprived of salt for eleven months appeared sluggish, and of a languid temperament; their coats were rough, devoid of gloss, and partially bare: while those which had been fed with salt were lively, had a fine glossy coat, and were sure to obtain a considerable higher price at market.—*Brit. and For. Med.-Chirurg. Rev.*, from *Liebig's Report*, vol ii.

MATERIA MEDICA AND PHARMACY.

7. *On the Action of Bromide of Potassium.*—M. Huette has been induced, by reason of the analogy in composition which this substance offers to iodide of potassium, and by the recommendation by a few practitioners of its therapeutical employment, to try a series of experiments with it. These have resulted in complete disappointment; but during his investigation he discovered two effects producible by the bromide, which, if confirmed on farther trials, may

admit of useful application. One of these is the power it possesses, even when given in small doses, of inducing a state of *insensibility of the palate and pharynx*, which, commencing on the second day, continues during the whole course of treatment. It is so complete that the finger may be carried to the base of the tongue, touch the amygdalæ and posterior nares, or tickle the uvula, without inducing any effort at vomiting or deglutition whatever. This local anæsthesia seems deserving of investigation, as being preferable to that derivable from chloroform, when tedious and delicate operations about the mouth and throat are in question. Still other investigations are required; for, on the one hand, the insensibility might not subsist under the action of a cutting instrument, and on the other perhaps the glottis itself is involved in a like insensibility, and would not indicate the passage of blood into the trachea.

The bromide possesses also remarkable power in inducing *torpidity of the genital organs*. A patient tormented by a vivid imagination, and subject to frequent consequent pollutions, found himself quite freed from his infirmity after having taken 15 grains *per diem* for three days; while some patients to whom the drug was administered reproached the author with this effect, which however passes off in a few days after the discontinuance of the medicine. The medicine thus seems indicated in *chordee*, in relieving which camphor and opium so often fail, as also in certain forms of spermatorrhœa.—*Brit. and For. Med-Chir. Rev.*, Oct. 1850, from *Gazette Méd. de Paris*, No. 23.

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8. *On the Therapeutical Employment of Coffee and Cafeine.* By MM. Vanden-Corput and Hannon.—M. Vanden-Corput has recently published an article upon the febrifuge power of coffee, and especially its anti-neuralgic action, on which account it is now very much employed by the Belgian practitioners. Numerous therapeutical applications of this substance were made long since. Nebelius and Baglivi gave it in cephalalgia, Dufour prescribed it in phthisis and migraine. Willis employed it in narcotic poisoning; and Grindel and Dorpat as a febrifuge. Musgrave, Pringle, Monin, Percival, Laennec, and a great many others, have spoken of it approvingly in essential asthma. In Dutch Batavia it is used in strong infusion, with lemon-juice, in pernicious fevers; and the practice passing thence to Holland, has led to its being preferred there to quinine. Pouqueville declares it is infallible in the intermittents of the Morea; and Martin-Solon approves of its use in the adynamic form of typhoid. Dr. Guyot has recently strongly recommended it in pertussis. Besides medicinal properties, properly so called, it possesses the important one of disguising the taste of various substances, especially quinine, sulph. magnesia and senna; and if its antiperiodic virtues really exist, it will probably favour the action of quinine instead of impairing it, as has been feared by some. It possesses the power, too, of developing the action of *haschisch*, contradictory as this may seem to its generally acknowledged anti-narcotic properties.

With *Cafeine*, prepared according to Liebig's process, M. Vanden-Corput produces various compounds. Thus the *citrate*, which is very soluble in water, is formed by saturating pure cafeine in a solution of citric acid, and evaporating; or it may be procured by exhausting crude coffee with a very weak solution of citric acid, shaking the liquor with an equal volume of ether, decanting it, and leaving it to crystallize after concentration. Twelve grains are added to 450 grains of sugar, and the mixture given in doses of 12 grains. The *lactate* may be prepared by dissolving cafeine in dilute lactic acid and evaporating, or by treating the infusion of green coffee with lactate of lime, filtering and evaporating. It may be given in sugar. The *malate* may be prepared in an analogous manner, and administered as a syrup by dissolving 4 parts of the malate in 30 of orange-flower water, and adding to it 250 of simple syrup. Cafeine may also be given with *hydrochloric acid*, as in the following formula: Cafeine 7 grains, distilled water 1350 grains, strong hydrochloric acid 2 drops, syrup 255 grains. Dose. a tablespoonful.

M. Hannon speaks in the highest terms of the employment of the *citrate of cafeine* in *idiopathic migraine*. Ten grains are first made into as many pills, one of which is given every hour for some time before the paroxysm. The dose is gradually increased until relief is obtained; and in one case even half a

drachm at a time was given. The dose must, indeed, be large, in proportion to the obstinacy of the case and the length of time between the paroxysms. Large doses are also required in old, feeble, or cachetic patients; and in old cases the medicine must be long continued. It is desirable, when possible, to commence the medicine the evening before the expected paroxysm, when the entire quantity may be divided into several doses; but if it has been delayed until the commencement of the paroxysm, the whole quantity must then be given at once. The expected paroxysm may thus be entirely arrested or merely diminished in severity; but in all cases, save where the disease is sympathetic, it eventually yields.

While upon the subject of *migraine*, we may mention a still pleasanter remedy than coffee, suggested by M. Tavignot, viz., the making several *deep inspirations* in rapid succession. We must observe, however, that M. Tavignot does not understand by the term *migraine* simple neuralgia of the head, which many writers so designate; but the condition when this is accompanied by a state of physical and moral prostration, during which the blackest ideas assail the patient—the "blue devils," in fact, to which the English were once thought on the continent to be especially liable. During an attack of this, which from former experience he was led to believe would continue for twenty-four hours, he was induced by the hope that this condition of the nervous centres might result from a stasis of the blood in the sinuses of the brain, or from imperfect hematosis, to take several deep and rapid inspirations; and after a few efforts of this kind, he found himself completely relieved, and able to resume his occupations. Other persons, similarly affected, have been in like manner relieved; but those who have tried the plan in simple neuralgia have been disappointed.—*Brit. and For. Med.-Chirurg. Rev.*, Oct. 1850, from *Bulletin de Therap.*, vol. xxxviii.

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9. *A cheap and simple article of Nourishment for Infants—Carrot Juice.* By Dr. Gumprecht of Hamburg.—Being impressed with the consideration that the nature of the artificial nourishment of young children deprived of the breast has a most important effect on their health, the author was anxious to find some aliment more supportable by the tender organism of infants than cow's milk and amylaceous matters, which mostly tend to acidity. An observation of Schmidtmann, that the pulp of carrots is a favourite article of diet for young children in Turkey, and is much used there, led him to turn his attention to this substance, which, as is well known, from the analyses of Wackenröder and Liebig, is particularly rich in albumen and sugar. It contains, however, also a quantity of ligneous fibre (cellulose), which is indigestible, and may therefore prove injurious.

He therefore thought of employing the thickened juice of carrots in the following way: An ounce of finely-rasped carrot pulp is mixed with two cups of cold *soft* water, and left for twelve hours, during which it is occasionally stirred, then strained through a sieve, and the juice expressed from the pulp. This juice is then mixed with a sufficiency of bruised biscuit, or bruised crust of white bread, or a little arrowroot, a little sugar added, and the mixture heated, but not allowed to boil completely, so that the albuminous matter may not be coagulated. More sugar may be added if required.

The author considers the addition of biscuit or bread to be necessary, in order to furnish to the child all the requisite elements of nutrition—viz., albumen, starch, gluten, sugar, fat, and salts.

For sucklings deprived of the breast, the preparation is so far altered that the biscuit (1 part) is rubbed up with the carrot pulp (4 parts), then macerated and strained as above (we presume it is to be heated, though the author does not expressly say so). To this juice the requisite amount of sugar, and a little salt, are added, and the child fed with it from a sucking-bottle. Of course great cleanliness is requisite to prevent acidity being generated in the bottle, and for the same reason the juice, which readily undergoes fermentation, is to be kept in a very cool place, and prepared in small quantities at a time.

So far as the author's observations have gone, this system of nourishment has answered well, the children not only bearing it well, but taking the food

readily, and he has received assurances of similar success from several of his professional brethren.

It is further stated by him that for older children the carrot pulp may be mixed with animal broth, and that large carrots answer better for the preparation of the juice than those which are young and small.

From the want of any direct experience of the above method, we cannot as yet express a judgment on the above proposition; but we must admit that the manufacture of the food does not appear (as the author seems to think) so easy that we can always reckon on its being successfully prepared. The chances of fermentation in such a juice are so great that it is to be feared it will hardly be avoided. We should regard any tendency to laxity of the bowels—so common an affection of children—as a complete contra-indication to its use. Further, there seems to be no reason why, even for young infants, some animal matter should not be added, in the form of broth or yolk of egg.—*Schmidt's Jahrbücher*, from *Journ. für Kinderkrankheiten*, July and August 1849.

In the *Journal für Kinderkrankheiten* for March and April 1850, Dr. Gumprecht publishes letters from Dr. Müller, of Hamburg, Dr. Mauthner, of the Children's Hospital of Vienna, and Dr. Helmbrecht of Brunswick, who state that they have followed his plan with satisfactory results. The last-named physician, however, remarks that if arrowroot is used to thicken the juice, it must be boiled, else the arrowroot will not dissolve, and this has the effect of coagulating the albuminous matter, which the author wishes to avoid. Dr. Helmbrecht suggests salep—a substance which is little used in this country, but which, we believe, is unjustly neglected.—*Monthly Journ. Med. Sci.*, Nov. 1850.

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10. *On the Therapeutic Properties of Cedron.* By Dr. Cazentre.—The seeds of Cedron are employed, in Central America, as a remedy for the bites of serpents, for hydrophobia, and for intermittent fevers. The tree is of the size of an elm; it is of the family of cedars, and grows in the whole of Central America, but most abundantly in the neighbourhood of Carthagena. The seeds nearly resemble a large bean; they are inclosed in a matty, thick, ovoid drupe, of the size of a lemon. When fresh, these seeds contain an oily matter. The whitish farina which is obtained from them is extremely bitter; the bitterness is more lasting and disagreeable than that of sulphate of quinine. The following are the purposes to which they are applied.

1. Bites of Venomous Reptiles. The seeds of Cedron are the most powerful antidote known against the bites of the most dangerous serpents; the remedy is said to be infallible, if immediately applied. The natives of the country where it grows always carry some of it with them when they go into districts infested with reptiles; hence fatal accidents are seldom heard of, although bites must be frequent.

Mode of Administration. Three or four seeds are scraped and the farina is collected in a spoon, mixed with a little water or spirits, and immediately swallowed. Some of the powder, prepared in the same manner, is then applied to the wound, and covered with a piece of linen. The natives act more simply, by mixing up the grated seed, in the palm of the hand, with saliva, and swallowing it; they then immediately mix more, and apply it to the wound. A tincture, of rapid and certain effect, is also prepared by macerating the seeds in brandy. The first dose is often sufficient; but, generally, it must be repeated twice or three times, according to the severity of the bite, and the subtility of the poison introduced.

2. Intermittent Fever. Cedron is frequently employed, at Panama, for this affection; and, in some localities, it is the only remedy used. Dr. Cazentre has often heard persons speak of having been cured by it of ague, which had resisted quinine. He recommends an inquiry into the efficacy of Cedron as a substitute for cinchona.

3. Hydrophobia. Dr. Cazentre has been informed by persons that they had seen mad dogs cured by the administration of this remedy, and that a bitten animal would be preserved, if it were administered during the period of incubation. This subject Dr. Cazentre recommends to be also carefully investigated.—*Lond. Journ. Med.*, Nov. 1850, from *Journal des Connaiss. Med.-Chirurg.*, Oct. 1850.

11. *Hydro-Iodic Ether.*—It is now about twenty-five years since Gay-Lussac discovered hydro-iodic ether, yet this substance, though so volatile and rich in iodine, has never been employed medicinally. M. Huette thinks that it is a powerful remedy, and has performed numerous experiments for the purpose of determining its physiological effects. The mode of administration is simple. One or two scruples of the ether are introduced into a small bottle, and then covered with an extremely thin layer of water. The bottle is next applied to the nostril, and inspiration effected, the ether passing up through the aqueous covering. Fifteen or twenty inspirations are sufficient. Absorption takes place so rapidly that iodine may be discovered in the urine a quarter of an hour afterwards. The physiological effects are those of iodine in their highest degree; yet the author never experienced any other inconvenience, after numerous trials, than a slight co. yza. It does not appear that M. Huette has made any clinical experiments with the hydro-iodic ether; but he has proved that it may be employed without any inconvenience, and analogy warrants us in recommending it to the notice of the physicians attached to the Brompton Hospital. (*Med. Times*, Sept. 14, 1850; abridged from *Gazette Médicale*, July 27.)

Mr. Nunneley's experiments on Hydro-iodic Ether (*Trans. of Prov. Assoc.* vol. xvi. pp. 204 and 315) suggest caution in the use of this substance. In eight experiments, six of the animals died; all, with one exception, some hours after the effects had apparently passed off, and even when insensibility had not been produced. Mr. Nunneley believes that, "whatever anæsthetic property it might possess, it never could be employed in practice." Additional experiments on the lower animals would be required before its administration to the human subject could be warranted.—*Lond. Journ. Med.*, Nov. 1850.

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12. *Preparation of Atropine by means of Chloroform.*—At a meeting of the Academy of Sciences of Paris, on 14th October, M. Bussy presented a communication from M. Rabourdin, druggist at Orleans, on the preparation of atropine by means of chloroform. The following is M. Rabourdin's process:—

Fresh belladonna, gathered when commencing to blossom, is bruised in a marble mortar, and the juice pressed out; the latter is then exposed to a temperature of from 176° to 194° Fahr., to coagulate the albumen, and filtered.

When the liquid is cold, four grammes (ʒi) of caustic potash, and thirty grammes (ʒvii and gr. xliij) of chloroform, are added to each litre (1¾ pint); the whole is shaken for a minute and then set aside. At the end of half an hour, the chloroform, charged with atropine, is deposited, having the appearance of a greenish oil; the supernatant liquid is decanted off, and replaced by a little water. The water is successively added, and removed, till it becomes clear; the chloroform solution is then received into a tubular retort, and distilled by a sand-bath until all the chloroform has passed into the receiver. The residue is then treated with a little water, acidulated with sulphuric acid, which dissolves the atropine, leaving a green, resinoid matter; the solution, when filtered, is colourless. To obtain the atropine pure, it is sufficient to add carbonate of potass, slightly in excess, to collect the precipitate, and to dissolve it in rectified alcohol, from which, by evaporation, beautiful groups of needles of atropine are deposited.

When the fresh plant cannot be obtained, well-prepared extract of belladonna may be employed. Thirty grammes of extract of belladonna, obtained from the purified juice of the plant, are dissolved in one hundred grammes of distilled water. The solution is filtered; and two grammes of caustic potash, and fifteen grammes of chloroform, are added. The remainder of the process is analogous to that already described.

M. Rabourdin believes this method applicable, in general, to substances containing organic alkalies. If it do not become an economical means of preparing these products, it will at least serve, in some cases, to determine their proportion in certain materials.—*Lond. Journ. Med.*, Nov., from *Gaz. Méd. de Paris*, Oct. 19th, 1850.

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13. *Cantharidal Ether, and some Vesicant Preparations of Cantharides.*—By leaving cantharides with a small quantity of sulphuric ether, a green liquid is

obtained, very rich in cantharidine, which easily combines with resins, fats, or collodion. M. Oettinger, of Munich, proposes to employ this, in various forms, for producing vesication.

Cantharidal Ether. This is formed by digesting one part of coarsely-powdered cantharides in two parts of sulphuric ether, for three days, and expressing. The ether is charged with cantharidine, with a green oil, and with a yellow wax-like matter. When applied to the skin with a camel's-hair brush, the cantharidal ether produces abundant blisters, in one or two hours in children, and in three or four hours in adults.

Cantharidal Taffetas and Paper. A double layer of aqueous solution of isinglass is spread on silk, or paper; when this is quite dry, the following is applied: Cantharidal ether, sulphuric ether, of each four parts; turpentine, colophony, of each one part. A brush dipped in this is passed over the prepared material twice, with a short interval between the applications, and always in the same direction. After twenty-four hours, a third layer is applied; and, at the end of a similar period, a fourth. After some days, a layer of isinglass is applied. At the time of application, a wet rag is passed over it to remove the gelatine.

Cantharidal Ointment. This is prepared with equal parts of cantharidal ether and of lard. It acts intensely on children, after being rubbed in two or three times, and being applied for two hours.

Cantharidal Collodion. M. Oettinger prepares this by mixing equal parts of cantharidal ether and collodion.—*Lond. Journ. Med.*, Nov. 1850, from *Bulletin Générale de Therapeutique*, 30 Sept. 1850.

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14. *Protection of Pills of Iodide of Iron from the Air.*—M. Blancard, in a memoir lately submitted to the Academy of Medicine in Paris, describes a process for the preservation of pills of iodine of iron, so as to prevent the iron from becoming peroxidized.

This process consists in covering the pills with a sort of varnish, made with an ethereal solution of balsam of Tolu, deprived of benzoic acid by digestion in water. The rationale of the process is founded on the volatility of ether, and on the insolubility in it of the substance which it is desired to protect.

The pills, thus prepared, are of a dark iron-gray, shining, and have no disagreeable smell or taste. When held in the mouth for some minutes, they give no evidence of the presence of a salt of iron. No iodine is disengaged. The commission, appointed by the Academy to report on the process, kept several hundreds in a bottle; the silver at the bottom of the stopper, which acted as a permanent test, had not changed colour at the end of several months. The pills contain a small excess of iron.

The commission reported favourably on M. Blancard's process; and it was resolved that his memoir should be published entire in the *Bulletin de l'Académie.*

M. Bouchardat suggested that the pills might be rendered difficult of solution in the stomach. This might, however, be an advantage when it was desired that a medicine should reach more distant parts of the alimentary canal without being modified.—*Lond. Journ. Med.*, Nov., from *Gaz. Méd. de Paris*, Aug. 17, 1850.

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15. *Neutral Citrate of Soda, a new Purgative suitable as a substitute for Saline Mineral Waters, the Citrate of Magnesia, Sulphate of Soda, of Potash, of Magnesia, &c.*—M. Guichon, a pharmaceutist of Lyons, has suggested the use of the neutral citrate of soda as a substitute for the citrate of magnesia, and as being but half as costly.

This salt is white, without odour, often very slightly acid; it effervesces slightly on exposure to the air; it crystallizes in six-sided pyramids; its chemical formula is NaO, $C_4H_4O_4$.

Acid	49
Acid of sodium	26
Water	25
	100

It is very easily preserved; an excess of acid diminishes very decidedly its purgative powers. Dr. PATTON, chief physician to the hospital of Antiquaille of Lyons, has experimented with it both in the state of a neutral salt simply dissolved in water, or in a demulcent drink, and in the state of a neutral salt very slightly acidulated and sweetened. Young subjects are purged by it in the dose of 40 grammes, and adults in the dose of 55 grammes. These experiments, which have been repeated by many physicians of Lyons, show that this new purgative possesses equal powers with the citrate of magnesia, and is much less costly.—*Revue Médicale de Paris*, 31st May, 1850.

MEDICAL PATHOLOGY AND THERAPEUTICS, AND PRACTICAL MEDICINE.

16. *On the Mechanism of the Inflammatory Process.* By ERNEST BRUCKE.—On the retardation, and ultimately cessation, of the circulation in the capillaries of an inflamed part, the blood-corpuscles are known to accumulate in, and at length to completely fill and obstruct them. This phenomenon constitutes one of the most interesting points in connection with inflammation, and various explanations of the *modus operandi* of its occurrence have been advanced. Drs. C. J. B. Williams and Addison have attributed the inflammatory stasis to the multiplication and accumulation of the colourless corpuscles of the blood in the implicated capillaries. The merit of contesting and refuting the accuracy of this observation belongs to Dr. Hughes Bennett. It is now no longer possible to deny that the greater or smaller proportion of these corpuscles to the mass of the blood is entirely independent of inflammatory action. But though the correctness of this observation has been disproved, there can be still no doubt that at least some of the changes connected with the process can, with the aid of the microscope, be perfectly well examined, and that thus facts may be established which must be taken into account in all reasoning on the subject.

Henle has given the weight of his name to a theory which ascribes the diminished rapidity of the circulation, in the early stage of inflammation, to a primary dilatation of the capillaries and small veins. Brücke opposes this view; he holds this dilatation to be passive, and the consequence of a primary contraction of the arterial twigs supplying the affected part. Thomson had already signalized contraction of the arteries as the earliest change in the development of inflammation, but Brücke has been the first to deduce from this contraction the subsequent phenomena of the process. He has shown that the contraction lasts for a much longer period than was previously supposed, viz., for hours; a statement of the correctness of which we have convinced ourselves. The substance of Brücke's memoir is as follows:—

"On touching with liquid ammonia the web of a frog's foot, expanded under the microscope, an acceleration of the circulation is the first effect witnessed. This depends, in all probability, on an increase of the heart's contractions—as the frog, by its movements and efforts to escape, evinces other distinct signs of pain and suffering. During the movements of the animal, the circulation frequently becomes suddenly slower, and then just as suddenly resumes its rapid rate, which, as may be easily understood, is occasioned by the temporary compression of large vascular trunks. In a short time the animal becomes quiet, and the first signs of the inflammatory process appear, the circulation in the capillaries and small veins is seen to be diminished in rapidity, and these vessels contain more blood-corpuscles than usual. These two phenomena continue increasing, until at length the circulation in a portion of the capillary system, and in the small veins originating in it, entirely ceases, and the vessels are dilated and turgid with highly coloured red blood-corpuscles, so densely crowded that the outline of the single corpuscles can but rarely be distinguished. On examining the arteries supplying the part affected by the stasis, their ultimate twigs are frequently found to be already full of blood-corpuscles, which

are slowly but continually accumulating and filling the artery higher and higher.

"With each contraction of the heart, the blood advances somewhat in the vessels, but on its dilatation again recedes. Now, as the blood-corpuscles are heavier than the liquor sanguinis, they are less affected by the slow retrograde movement than by the rapid impulse forwards, and fresh corpuscles are in this way, as may be easily followed by the eye, constantly added to those already arrested. On examining more closely the artery in which the oscillations are perceived, its upper portion is found to be considerably narrowed, so that a single branch filled with blood-corpuscles is frequently larger than the stem from which it, together with many other branches, arises; in fact, if the arteries are measured with the glass micrometer before the experiment, at the point where they pass from the toes into the web, it is easily proved that the inner diameter of the artery, which feeds the implicated portion of the capillary vessels, is diminished to the half, indeed to a third, or even to a fourth, of its original size during the development of the stasis. I have often observed this condition of the narrowing of the arteries, and of the oscillation in them, in a completed stasis of from four to five hours' standing.

"Dilatation of the capillaries to double their diameter, and more, as some authors maintain, never occurs during the development of the stasis; it is only found when the inflammation has already existed for some time. The formation of the stasis cannot be accounted for by the dilatation of the capillaries; their dilatation is so slight that it is altogether denied by some observers, and, according to my observations, does not amount, at least during the development of the stasis, to more than a fourth of their original diameter.

"As regards the primary contraction of the arteries, it cannot be the effect of the elasticity of the arterial walls, for this would only occasion it if the pressure, which the blood exerts on them from within, should cease, and among the phenomena of the stasis we find none which could have such a consequence. The diminution of the calibre of the arteries must, therefore, be due to their contractile fibres; the anomalous condition in which, owing to the stasis, their twigs are placed, might be assigned as the cause of it; but, if this anomalous condition can excite contractions in the arteries, there is no good reason why it should not also be primarily excited by the originally employed irritant. It now remains to be seen whether the phenomena of the stasis may not be accounted for by the contraction of the arteries.

"If fluid be driven into a ramifying tube, it is clear that, on the occurrence of contraction of the trunk, other circumstances remaining the same, the rapidity of the current in the ramifications must be diminished. On viewing the circulation under the microscope, it appears that, in the normal condition, the blood courses onwards, in the whole capillary network, at a tolerably uniform rate—it is only in isolated and somewhat large vessels, which, as transitions from the arteries to the veins, are found interwoven in the capillary net, that the current is somewhat more rapid, the reason of which is obvious. Now, if an artery contract, this regularity in the distribution of the current, corresponding to the normal condition, and to the normal calibre of the arteries, must be disturbed in its vicinity; and it thus becomes clear, that not only a local retardation of the circulation, but also a local stasis, and even altered direction of the current in some vessels, may be caused by the contraction of a small artery.

"On the retardation of the circulation, the phenomenon which first shows itself—in fact, simultaneously with it—is the accumulation of the blood-corpuscles in the slower flowing blood. The corpuscles are specifically heavier than the *liquor sanguinis*, and are only kept suspended by the motion of the blood; the torrent of the blood bears them along with it through the capillaries; and it is often seen how they must turn and bend themselves to pass through their narrow and tortuous channels. If a stream, which bears along with it a specifically heavier body, diminishes in rapidity, the celerity of the solid body not only diminishes absolutely in the direction of the stream, but also relatively to the medium rapidity of the current; the solid body will sink, arrive in the slower moved layers, then be stilled, rolled onwards by starts in the bed of the

stream, and at last remain stationary. On considering that fresh blood is continually added to the vessels concerned, and that with the diminution of the velocity of the circulation the average celerity of the blood-corpuscles no longer bears the same relation to the average celerity of the *liquor sanguinis* as in a more rapid current, it becomes evident that with the increasing slowness of the circulation the blood-corpuscles are multiplied in the vessels, until at length they completely fill them, form on their part an additional obstacle to the circulation, and annul the last remains of it. This phenomenon may be compared to that which is observed in rivers, which choke their original bed with the sand they carry with them, and are forced to seek new passages to the sea.

"Lastly, it remains to be shown how the dilatation of the vessels in which the blood stagnates is produced. As the pressure which the blood exerts on the walls of the vessels depends on the resistance which it has still to overcome, so, in the normal circulation, the pressure decreases rapidly from the small arteries to the capillaries, and from the latter to the veins; in those vessels, however, in which the blood-corpuscles have accumulated, the resistance is manifestly increased, and, if they are completely obstructed at any spot, then they form from this upwards a blind appendage to the afferent vessels, in which the pressure is as great as at that point of the vessel whence the last branch, in which the blood still flows, is given off.

"I do not mean to assert that I have proved that all cases of stasis result from a contraction of the arteries; I even believe that I am acquainted with some which originate from other causes: thus much only I believe I have shown—viz., that the phenomena of the stasis can, at least, be as well and as completely acounted for by the contraction of the small arterial twigs as by a primary dilatation of the small veins and of the capillaries. If the phenomena connected with the occurrence of the stasis can be explained by the contraction of the arteries, it appears to me, when contraction of the arteries as well as stasis is observed on the application of any irritant, to be the most natural conclusion to consider the occurrence of the former as the immediate consequence of the irritation, and as the cause of the remaining phenomena; because the contraction of the walls of the arteries, in consequence of irritation, belongs to the well-established facts of physiology, and dispenses with every hypothesis which would attribute the dilatation of the veins and capillaries to direct or reflex paralysis of the nerves of the vessels."

Brücke has placed beyond doubt the fact of the contraction of arteries in the frog in the first stage of inflammation, and the persistence of such contraction for a considerable period. The inference he has drawn respecting the influence of this condition on the development of the stasis and the dilatation of the capillaries, are in the highest degree worthy of consideration; and his memoir must be esteemed an important contribution to pathology. If a certain condition, proved to exist in the lower animals, influences the formation of the inflammatory stasis in them, we are driven to the conclusion that the same condition would necessarily not be without effect in the production of the same phenomena in man and the higher animals, though in them not equally susceptible of ocular demonstration.—*Monthly Journal Med. Sci.*, Nov. 1850.

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17. *Treatment of Typhoid Fever.*—M. Becquerel, Jr., has lately presented to the French Institute an important memoir on the Treatment of Typhoid Fever by sulphuret of mercury internally and frictions with mercurial ointment.

In the year 1847, M. Serres read at the Institut a series of papers on "The Nature and Treatment of Typhoid Fever," and proposed a new mode of treatment, which he considered likely to exercise a most beneficial influence on the progress and character of that disease. The mercurial treatment of M. Serres consisted in the internal use of the black sulphuret, in doses varying from twelve to sixty grains, and in frictions over the abdomen with common mercurial ointment, in quantities varying from half an ounce to one ounce daily.

This treatment was continued for ten or twelve days—even longer, until the prominent symptoms of the fever had given way.

Having been appointed to take charge of M. Serres' patients at La Pitie for

some time, M. Becquerel resolved on submitting the mercurial method to further experiment. He therefore made trial of it on fifteen patients affected with typhoid fever, abstaining, with some slight exceptions, from the use of any other remedy.

The black sulphuret of mercury was administered to each patient immediately on his admission; he began with thirty-two grains, in the form of pill or powder divided into five or six doses. If no improvement took place in two or three days, the dose was increased to forty-eight or even sixty-two grains. As soon as convalescence commenced, the remedy was discontinued. In no case was the salivation severe enough to render discontinuance of the mercury necessary.

The mercurial ointment was employed in the quantities recommended by M. Serres, being increased in such cases as demanded an increase of the sulphuret. Thus, with thirty-two grains of the sulphuret, sixteen scruples of mercurial ointment were employed in two frictions; and with sixty-four grains thirty scruples. In order to favour absorption, the abdomen was cleansed every day with soap.

The accessory remedies employed were—ice, Seltzer water, and lemonade as a drink; simple lavements, or, in cases of constipation, a laxative clyster.

In ataxic cases, of which four occurred, musk was administered as a stimulant to the extent of five or six grains a-day.

The following are the results of the practice: Fifteen patients, all labouring under typhoid fever in a severe form, were treated—ten men, five women. The men were aged, two, sixteen years; two, seventeen; two, eighteen; one, twenty; two, twenty-two; one, thirty-six years. The ages of the women were—fifteen, eighteen, twenty, and two of twenty-one years.

The male cases may be arranged as follow: Four labouring under the ordinary abdominal form; five presenting adynamic symptoms of a very severe nature; and one with ataxic fever, in which the delirium and agitation predominated.

Of the females, one was affected with the adynamic form; one with common typhoid fever; one with the ataxo-adynamic, and two with ataxic fever. Dating the commencement of the attack from the first appearance of a febrile movement, we find that two entered hospital on the second day; two on the fourth; seven on the fifth; three on the sixth; and one on the eighth day. The premonitory symptoms of headache, muscular depression, &c., had, besides, varied from three to twelve days before the regular febrile attack commenced.

The treatment was begun, in the fifteen cases, on the day after admission. The following were its principal effects:—

Febrile Movement.—The first few doses of the sulphuret, and a few frictions, diminished the heat and dryness of the skin, which in some cases became moist. The pulse, at the same time, constantly fell. It varied from eighty-four to one hundred and sixteen in the different cases, and in all the frequency was diminished by the third day.

Mouth.—The dry, rough condition of the tongue, and the blackness of the lips, never disappeared until salivation had set in. This latter occurred twelve times in the fifteen cases: it was absent twice; and in these two cases recovery was just as prompt as in the former. In the only fatal case, the tongue remained dry to the end of the disease. In every case but one, the salivation was slight; in the one excepted, the tongue and gums continued swollen for twelve days.

With respect to this effect, the following propositions appear to be established:—

1. In ordinary typhoid fever of moderate intensity, salivation occurs more quickly than in the other forms; it is more decided, and continues a little longer during the convalescence, of which it is usually the precursor.

2. In severer cases, the salivation occurs at a later period, and is less considerable; sometimes it takes place at the moment the febrile symptoms disappear, in other cases, a few days previously.

3. In the most dangerous cases it is very difficult to excite salivation, and,

until this takes place we have always to dread some accident. Great perseverance is therefore requisite.

4. Finally, in a few mild cases, salivation does not exist, the mercury appearing to master the disease in less doses than are necessary to stimulate the salivary glands.

Tympanitis.—In every case, except the fatal one, this symptom diminished with great rapidity, and that from the commencement of the treatment.

Bowels.—The mercury produced in two cases one or two fluid stools daily; in two others accompanied by constipation, it had no laxative effect, and lavements became necessary. In three cases of diarrhœa (five or six fluid stools a day), the looseness diminished in a remarkable manner as soon as the remedy was employed. In eight cases it had no effect whatever on the state of the bowels, neither augmenting nor diminishing the diarrhœa.

Rose Spots.—These spots, when situate on the abdomen, were invariably removed in twenty-four to thirty-six hours by the mercurial frictions; but they continued their course on the other parts to which mercury was not applied.

Delirium.—When this symptom was at all prominent (four cases), musk was given to the extent of five or six grains daily. Although so violent that the use of the straight-jacket had been necessary, these patients became calm in four or five days. As to the cough, chest symptoms and stupor, they followed the general course of the disease, and appear to have been modified in a secondary way only.

Duration of Treatment.—In four cases, the treatment was prolonged to seven days; in three cases, to eight days; in one, to nine days; in three, to ten days; in one, to twelve; in one, to fifteen; in one, to sixteen; in one, to seventeen days. The mean duration was, therefore, ten days.

The quantity of mercury employed was, on an average, twelve and a half scruples of the sulphuret, and two hundred scruples of mercurial ointment. The smallest quantity was seven scruples of the sulphuret, with one hundred and twelve scruples of ointment; the maximum, twenty-four scruples of the former and three hundred and sixty of the latter.

Duration of the Disease.—The mean duration of the disease in fifteen cases was sixteen days. In one case, the duration of the fever was twelve days; in two, thirteen days; in three, fourteen; in three, fifteen; in one, sixteen; in one, eighteen; in two, twenty days; in one, twenty-one days; and, in one, twenty-three.

From the above facts, M. Becquerel draws the following conclusions:—

The treatment of typhoid fever by the black sulphuret of mercury and mercurial frictions over the abdomen is attended by the most advantageous results. The effects are the more striking in proportion as the disease is treated at an early period. In fifteen cases, all of a severe nature, taken indiscriminately, only one death occurred, and that from perforation of the intestine. The duration of the disease also was unquestionably shortened by this method of treatment, for it varied from twelve to twenty-three days. The duration of the treatment varied from seven to seventeen days.

The following were the most remarkable effects of the remedy: Diminution of the force and frequency of the pulse, and of the heat of skin; *rapid and early disappearance of the typhoid eruption;* rapid removal, also, of the tympanitis; excitement in a great majority of the cases of salivation on the sixth to the thirteenth day, which is almost a certain sign that the treatment has succeeded and that the patient will recover. Combined with mercury, the musk was effectual in subduing rapidly the most severe ataxo-adynamic symptoms.—*Med. Times*, Nov. 2, 1850.

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18. *Treatment of Cardiac Dropsy.*—Dr. Alexander Kilgour, in an interesting paper on Disease of the Heart and the dropsy following, in the *Monthly Journal of Med. Sci.* (Sept. 1850), makes the following remarks on the treatment of the latter affection:—

"In the treatment of cardiac dropsy, every practitioner has his favourite remedy, taken from the class chiefly of diuretics or purgatives, or both. Of the former, I have found the following combination the most efficient. It pumps

the patient out, so to speak, sometimes in a few hours; and it often will do so in repeated attacks of the anasarca.

℞.—Infusi digitalis, ℥iv; acetatis potassæ, ʒij; spiritus ætheris nitrosi, ʒij; aquæ cassiæ, ℥iss. Capiat cochleare magnum quartâ quâque horâ.

At last there comes an attack in which this and other diuretics cease to act, and we must then fall back on purgatives. Of the latter, unquestionably the most powerful is elaterium. But there surely must be a very great diversity in the strength of this medicine. Some practitioners, from the days of Sydenham, and long before him, downwards, appear to have given it in the dose of two grains, or even more; but I have found a single pill, according to the following formula, generally very powerful:—

℞.—Elaterii, gr. j; extracti colocynthidis comp. ℈ij. ss; extracti hyoscyami, gr. xij. M. Divide in pilulas xij. Capiat unam nocte maneque.

The great objection to the elaterium is the intense sickness, even in this small dose, produced by it. Do the large doses produce less sickness than the smaller? It may be so; but, in the few instances in which I have tried large doses, the sickness was not less. Is there any mode by which this sickening property in this valuable medicine could be removed? The same effect was found by the ancients in the well-known and much-used, but undeservedly now almost discarded, hellebore; and for the sickness occasioned by it we find it recommended (*vide* "Oribasius," lib. viii. cap. v.) that, amongst other remedies, the patient should be entertained with a funny little story, or be tossed, like Sancho Panza, in a blanket.* Something more efficient than the former, and less disturbing than the latter, would be a desideratum.

It is the opinion of some that the elaterium acts as a diuretic, as well as a hydragogue cathartic. I remember, when in consultation with Dr. Adams, of Banchory, in a case of cardiac dropsy, having my attention called by him to a formula, where the elaterium was combined with a diuretic, which he had seen prescribed with very great success. I detected it at once as a formula given in Ferriar's valuable "Medical Histories." It acts most powerfully by stool and urine (being composed of several of the most powerful of the diuretics, along with the elaterium); but I always found it to cause much and violent sickness.

℞.—Extracti elaterii, gr. ij; spiritus ætheris nitrosi, ℥ij; tincturæ scillæ, oxymeliis colchici, ää ℥ss; syrupi rhamni, ℥i. M. Ft. Solutio. Capiat drachmam unam ex aquæ pauxillio, ter, quarterve in die.

The combination of a bitter purgative with a saline one composed of the vegetable alkali and a vegetable acid, is in my experience much more efficient than any single purgative, or than a bitter with a salt formed of a mineral acid. The old compound powder of jalap is a well-known instance of a mixture of this kind, and is still one of our best purgatives in all dropsies where this class of medicines may be suitable. Ferriar used, as did also Home, a combination of half an ounce of the bitartrate of potass with two grains of gamboge. The infusion of senna with bitartrate of potass is also an old-fashioned and valuable remedy; but the insolubility of the salt is an impediment to the efficiency of this formula. The senna infusion with tartrate of potass, or with the tartrate of potass and soda, is not liable to the same objection; and the advantage of the frequent use of this combination in cardiac disease having a tendency to dropsy, or in the dropsy itself attending that complaint, has been in my hands, and those of my brethren to whom I have recommended it, so unequivocal, that I can speak for it in the highest terms.

The preparations of mercury have proven, no doubt, very successful in the treatment of this form of dropsy, and consequently many practitioners give them a preference. Without wishing at all to detract from the merits of this most valuable agent, I must confess that, in chronic diseases of the heart, I have the same objection to it, and founded on the same grounds, as was that to the celebrated Dr. Fell, or, to use the more classic words of Martial—

* My learned friend, the translator of Hippocrates and Paulus Ægineta, writes, in a note, in his translation of the latter, "shaken in a garment;" but mine, I assert, is the more spirited version.

"Non amo te, Sabidi, nec possum dicere quare;
Hoc tantum possum dicere, non amo te."

I do not like the mercury, and cannot speak from experience of its efficacy in cardiac dropsy.

There comes a time in the treatment of this complaint when not only diuretics in all forms, but even purgatives, cease to remove or even to keep in check the anasarca. And this brings me to speak of another mode of treatment, which often proves palliative for a time—viz., puncturing the lower extremities, and thereby draining off the fluid.

This is not a new mode of treating the disease, though it has at various times fallen into unmerited neglect, and perhaps at the present time more so than at any other. Freind, in his "Historia Medicinæ," refers to the passage in Ætius which treats of this method of curing dropsy. Ætius is quoting from Asclepiades, and says that "an incision is to be made in the internal part of the leg, about four fingers' breadth above the ankle, and that it is to be of the same depth as in venesection. A small quantity of blood flows first, and then there is a continuous discharge of water; and, without inflammation, the wound remains open until the whole dropsy has run off, no internal medicine being used." Freind continues, "Ipsa operatio ab Hippocrate memoratur, et ab ejus temporibus usque ad hunc diem multo sæpe cum successu adhibita est. Aliam puncturæ, scilicet per acum, viam proponit Sylvius de la Boe, hanc a se primo excogitatam glorians; quanquam evidens sit ea omnia ex hac descriptione desumpta esse, atque totidem verbis ab Avicenna expressa." And then he adds, "Verum haud sola hæc inventio recens dicitur, quam antiqui nobis medicinæ scriptores diserte tradiderint. Id autem omnibus in chirurgia vel minimum versatis constat, lanceolam longe præferendam esse cuivis acui, in aperiendis iis, quæ anasarcam comitantur tumoribus."—("Historia Medicinæ," p. 385: Lond., 1733.) Mead commences his notice of the treatment of dropsy ("Monita," p. 130: Lond., 1771) with an account of this operation. He directs an incision to be made two fingers' breadth above the ankle down to the cellular membrane, and no further; and he orders the leg to be fomented with a decoction of emollient herbs, to which some spirits of wine and camphor have been added. He tells us that he has often found this mode of treatment, not only in this disease (anasarca), but also in ascites, of great service, and sometimes curative, the water running out for many days to an extent to exceed all belief. He carefully cautions us to support the patient's strength under a serous discharge from this or any other wound. He then gives a case, apparently hopeless, of anasarca, combined with ascites, where, by a wound made in this manner in each leg, followed by a combination of bitters, squills, and such purgatives as elaterium, calomel and jalap, the patient recovered, and died five years afterwards of another disease.

This method of treatment is also brought under our notice by Heberden, in his "Commentaries," but not with so flattering hopes of advantage. He says, "When these and other diuretics have failed, as is often the case, some have attempted to draw off the water by incisions in the legs, and even by cantharides' blisters applied to them; and sometimes blisters take place spontaneously on the legs of dropsical persons. By these means," he continues, "I have seen not a small quantity of water drawn off, but never the disease cured ('morbum autem nunquam sanatum'); but they gave a brief respite, and eased the patient a little." He then notices the great objection to this mode of treatment—the difficulty of healing, and the danger of these wounds—"Odiosum est quod hæc vulnuscula interdum fiunt ulcera sanatu difficilia, vel periculosa, quanquam bis aut ter quotidie pannis laneis ex aqua calida expressis foveantur. Fomenta hæc utilia sunt ad aquam copiosius evocandam."—("Commentarii," p. 191: Londini, 1807.)

I have here quoted the opinions of these very practical men as a test, so far, of the value of the treatment by incisions and puncture. I have no hesitation in saying with both Mead and Heberden, that I have not only often seen it of great benefit to a patient labouring under anasarca, no matter what the pathological cause of that disease, but have also in some cases seen it prove a cure, or, at any rate, that, after recourse had to it, internal medicines, which previously

exerted no effect on the dropsical effusion, began to act, and the anasarca did not reappear.

I do not, however, recommend it until all internal remedies have failed. I never have recourse to it till it has become, to use Mead's expression, "unica spes salutis;" and I do not forget the qualification he makes, "et ea dubia." Still I am decidedly of opinion that, whether as a palliative or as a hope of cure, it deserves more notice than now-a-days it seems to me to get.

There are two modes, as stated above, in which the opening for draining off the fluid may be made—either a puncture with the lancet, or with a good stout sewing needle. From a single puncture by the latter, a quantity of water will sometimes run out so as to pass through the bed in a few hours, and require to be collected in vessels placed below it.

Heberden has evidently seen the danger attending this mode of treatment, though he does not say specifically in what it lies. He tells that the wounds are difficult to be healed, but that we need not fear. He also says they are "periculosa." Now, the danger consists in the inflammation of an erysipelatous character, that not unfrequently takes place, extending up the limb, sometimes bringing on *sphacelation*, and for the most part ending in the death of the patient. But if the medical attendant would be satisfied with one incision, and one, or at the most two, punctures, in the proper place, erysipelas is not so apt to occur. The state of the skin—its low vitality during the existence of the dropsy under it—is singularly favourable for this form of inflammation; but a small clean cut, or one or two punctures—and, if there be two, at a distance of not less than two inches from each other—is not so likely to be followed by this as when, in the anxiety to get the water all off speedily, several have been made. The writers whom I have quoted all recommend fomentations to be applied to the wound; but I have often found the evaporating lotion very successful in keeping down any disposition in the part to erysipelas. Frequent ablution, also, with tepid water, and the removal of any cloths that may be soaked with the serum that has run out, will serve to prevent, so far, any irritation from being set up in the skin.

When the operation, even with the needle, has to be often repeated, as is sometimes the case, for the ease of the patient, especially in cardiac dropsy, there is sometimes a degree of inflammatory action set up in the cellular tissue by which its interstices become obliterated, and the skin and it become quite closely adherent to the facia below. I remember this occurring in a gentleman, who had been kept alive for some months by punctures, and who was at last dropsical everywhere, except below the knees, where the adherent and thickened integuments would not distend—thus giving him, however, not a little pain. It has of late been recommended to have recourse to this treatment much earlier in the disease than was the custom with the old practitioners; and it has been said that the chances of success from it are much greater than when the patient's strength has been exhausted, and the vitality of the skin has been impaired by the long existence of a dropsical effusion. This reasoning is fair; but, whilst admitting it, one practical point may be mentioned, which is, that the fluid does not flow so freely from the incisions as when the areolar tissue has become more open and less resilient by the long existent pressure of the effused serum. And, little as the danger of erysipelatous attacks may be from puncture of the skin in the early stage of anasarca, still there are few that will subject the patient to this chance of danger until all the other more usual and often successful modes of treatment have been tried in vain.

As to another topical means of treatment in this disease—viz., the application of blisters to the anasarcous legs, with the view of draining off the serum—I would have scarcely thought it necessary to speak, believing that almost none, now-a-days, would adopt this practice; but lately I met a very intelligent country practitioner, who told me thathe occasionally had recourse to this application. Sydenham has condemned the practice, and branded it as a favourite application of empirics; and he states that "blisters entirely extinguish the natural heat, already almost overpowered by the water and deficiency of the animal spirits, and bring on a gangrene—too common in such cases." Sydenham's authority (and, by the way, he also condemns acupuncture) is great; but I have seen a

small vesicle, which had formed on one of the lower limbs, burst and drain off the whole serum from a person affected with extensive anasarca. The case alluded to is one of interest otherwise, though more properly suited to an article on renal dropsy. The patient, a lady, had the most albuminous urine I ever examined. Every remedy for dropsy had been tried by her medical attendant but mercury, and it was only left to me to suggest that, before the patient died, this medicine, which I had never seen more dangerous in this form of dropsy, as has been asserted by writers, than in any other, should be cautiously tried. This was done. Two days afterwards the vesicle above alluded to showed itself and burst, and our patient, much to our surprise, recovered, and is still in good health—seven years after the above attack. What nature does may not always be successful in the hands of art; and the exciting of a vesication by means of a blister is much more likely to be followed by dangerous than by curative effects in all anasarcous limbs, from whatever cause the dropsical effusion may have arisen.

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19. *Valvular Diseases of the Heart.*—Of all the organic diseases of the heart, the morbid conditions of the valves have been regarded as the most formidable. Robert Hunter Semple, M D., in an interesting paper in the *London Journal of Medicine*, thinks that he can prove that *valvular disease of a most formidable and extensive nature may exist for several years without compromising health to a serious extent, and without abridging the usual term of human existence.* He relates three cases, which he considers conclusive on this point, two of which we shall quote.

Case II. *Disease of the Mitral and Aortic Valves, apparently of long standing. Sudden death without any previous illness at sixty-nine years of age.* Mrs. K., æt. 69, was a lady of very active habits, of mild and benevolent disposition, temperate and abstemious, of rather tall stature and spare figure; she had always enjoyed good health, with the exception of an inflammatory attack about twelve years before the date of the present history, but the exact nature of the disease I had no means of ascertaining. Although intimately acquainted with her and her family for ten years previous to her death, and although I was the medical attendant of the family, I had never known her to complain of any illness. Since her death, however, I was informed that she suffered occasionally from slight attacks of dyspepsia, and also from difficulty of breathing and faintness, but the symptoms were very transient, and never required medical assistance. From personal knowledge, I can state that she was by no means a person of sedentary habits, as she was continually attending to the duties of a large house, and I met her walking in the street almost every day. On Monday, June 27, 1843, about four in the afternoon, I was requested to see her immediately, as she had fallen down in a fit, although she had been previously in perfect health. At the time of the attack she was standing in the kitchen, superintending the affairs of the family, when she suddenly fell down. As I lived at that time next door to her, I arrived immediately upon being summoned, and found her lying on the floor with a pale countenance and very feeble pulse, and quite insensible. I was wholly at a loss how to account for her condition, as I had never known her to be ill during my whole acquaintance with her. I succeeded, with assistance, in placing her upon a sofa. Mustard poultices were immediately applied to the feet, and spirits of hartshorn held to the nose, but we had scarcely laid her down, when she expired.

Post-mortem Examination forty hours after death.—There was lividity on many parts of the body, apparently from gravitation, the lividity being chiefly observable on the under surface. Very little fat beneath the skin. *Head.* The vessels of the scalp were somewhat congested. The skull presented no remarkable appearance. The dura mater was slightly adherent to the inner table of the skull on the left side. Some fluid blood was found lying between the skull and the dura mater. The arachnoid membrane was somewhat opaque, and there was a considerable quantity of thin serous fluid effused beneath it; the veins of the pia mater were congested, especially in the posterior part of the brain. The brain itself, with the exception of being a little softer than is usual in persons of the age of the deceased, was quite healthy; and the only appearances

worthy of notice were the effusion of some fluid and the congested state of the meningeal vessels above described. *Chest.* The lungs were quite healthy, with the exception of slight congestion. The heart appeared externally to be larger than usual, but not remarkably so. There was very little fluid in the pericardium. The right auricle and ventricle, with their valves, were perfectly healthy. The left auricle was also healthy. The mitral valves were thickened by a deposition of semi-cartilaginous substance. The parietes of the left ventricle were very much thickened, but the cavity was of the usual size. The aortic valves were found very much diseased, and on looking at them from above downwards from the aorta, they appeared completely to close the passage. They were found to be converted into masses of bone, which nearly filled up the valvular orifice, leaving only a small chink for the passage of the blood. These bony masses were rough and nodulated, and were deposited apparently within the sinuses of the valves, and one portion of great size extended from one of the valves down into the cavity of the ventricle. The lining membrane of the aorta also presented a great number of bony plates. *Abdomen.* The liver presented no remarkable appearance. The stomach was full, the deceased having eaten her dinner a short time before the fatal occurrence. The kidneys were congested, and their cortical substance presented a somewhat granular appearance.

In this case of remarkable disease of the valves, the patient had enjoyed almost uninterrupted good health, and was in much better health, indeed, than most persons at her age. Nor can it be said that her immunity from unpleasant symptoms, and the delay of the fatal termination, was owing to care on the part of her friends, or to the indulgence of rest; for she was a person of great activity, both of mind and body.

Case III. *Extensive disease of the aortic and mitral valves. Death at the age of eighty-three.* Grace Darton died on the 4th April, 1850, æt. 83. The history of the case was as follows: The patient was a thin, emaciated woman, of a pale complexion, and mild, submissive appearance, who had long been an inmate of the Islington Workhouse. I began to attend her in 1840, and had seen her from time to time since that period. She stated that she had had several attacks of rheumatism previously to my attending her, and that she had been bled three or four times for those attacks. She had not suffered from any of those symptoms which are usually considered among the prominent rational indications of heart-disease; such as swelled legs, palpitation, shortness of breath, etc.; and although she came into the infirmary at various times, for several ailments, it was never on account of any cardiac symptoms: and it was only by auscultation that I became aware that she had any affection of the heart. In fact, I was disbelieved as to the existence of any serious disease in her heart; and although I frequently recommended that she should be kept in the infirmary, and be constantly under medical superintendence, my recommendations were disregarded.

In the year 1840 (æt. 73), she had an attack of diarrhœa in March, which readily yielded to medicines. In August, she had an attack of chronic rheumatism, for which she was ordered a dose of calomel and jalap, and a purgative mixture: under this treatment she recovered, and was reported cured on the 11th of September.

Feb. 8, 1841. She had an attack of influenza; for which she was ordered a mixture, consisting of tinct. hyoscyami ʒij; sulph. magn. ʒss; inf. sennæ, aq. menth. ää. ʒiij. During this attack she had some dyspeptic symptoms, for which she took carb. of magnesia, with sulph. of magnesia, and aqua menthæ. She was reported cured on Feb. 20.

January, 1842. She was seized with an attack of catarrh, for which she was treated with mild purgatives; but an attack of chronic bronchitis supervened, for which a blister was applied to the chest, and she was ordered to take gr. xij of ipecacuan. immediately, and afterwards to take the following: ℞. Vin. ipecac. ʒiij; sulph. mag. ʒij; inf. sennæ ʒvj. Sumat coch. ij magna 4tis horis. During this attack, the state of the heart and lungs was particularly examined, when it was found that, besides mucous, sibilant, and sonorous rattles over the lungs, there was a loud rasp sound over the region of the heart. This sound

was very loud, and much prolonged, taking the place of the first natural sound, and almost obscuring the second. This sound was heard most loudly over the base of the heart, and extended over the region of the arch of the aorta, and the right side of the neck. The impulse of the heart was not stronger than natural; pulse 80, regular. I should here notice that the pulse was always regular, and feeble, whenever I examined it. The treatment was directed, in the first place, to the relief of the bronchitic symptoms, which were removed by the measures indicated above, and by others of the same nature; and on the 4th of Feb. 1842, the expectoration had diminished, and the râles had disappeared. The rasp sound, however, still remained as loud as ever, and I was convinced that the woman had confirmed and serious disease of the aortic valves. I thenceforward, therefore, always adopted a somewhat tonic method of treatment; recommending vegetable tonics, with light nutritious diet, and avoidance of exertion.

May 30, 1842. She had an attack of lumbago. A mixture was thus prescribed:—℞. Vin. colch. ʒij; inf. gent. co. ℥vj. Sum. coch. ij magnæ 4tis horis. Under this treatment she was again reported cured. On the 19th of October, 1842, she had an attack of English cholera, which was successfully treated by carbonate of magnesia, and sulphate of magnesia in peppermint-water. On the 2d of July, 1843, she had an attack of common fever, from which she suffered for a week, but eventually recovered, by the use of febrifuge medicines and diluent drinks.

Sept. 8, 1845. She had a cutaneous eruption, attended with great itching, which I determined to be *prurigo senilis*. This was treated by mild aperients.

June 12, 1846. She had another cutaneous affection, attended with itching, which I regarded as lichen, and for which I ordered her twenty minims of liq. potassæ, in one ounce of compound infusion of gentian, three times a-day. This treatment was continued till the 17th of June, and the eruption disappeared.

Oct. 5, 1846. She now complained of faintness, nausea, want of appetite, and a disagreeable taste in her mouth. She said that she had lately suffered from palpitation of the heart and difficulty of breathing, when she exerted herself. She passed her water freely; never spat any blood; and had no swelling of the legs; bowels open, tongue clean, no thirst, pulse 58, quite regular, and weak. *Physical Signs.* The impulse of the heart was not increased, but the loud, sawing murmur was heard over the base, completely superseding the first sound, and was much prolonged; but a second, though much shorter murmur, was heard after it. Towards the apex of the heart, this murmur was also heard, but not so distinctly; it was distinctly heard over the region of the arch of the aorta, and over the right carotid artery. The diagnosis was still, of course, that the chief disease lay in the aortic valves. She was directed to take a moderate diet, consisting of mutton-broth, bread, milk, and tea; and to take the following medicine: ℞. Acidi sulphurici diluti, ℥v; inf. gent. co. ℥j. Quartis horis sumend.

Oct. 7. Much the same; dyspeptic symptoms remain; she complains of great faintness. She was ordered, in addition to the above treatment, to half-a-pint of porter daily, and to remain in the infirmary.

From that time, until very lately, I had not many opportunities of seeing this woman; and I heard that she died (without manifesting any particular symptoms beyond those resulting from her great age) on the 4th of April, 1850, aged eighty-three.

Post-Mortem Examination thirty-six hours after death. The body was emaciated; the legs were slightly œdematous; right side dull on percussion. *Head.* Scalp natural; cranium very thick, especially at its posterior part; sutures all obliterated; dura mater healthy, very firm, and dense: arachnoid membrane of a pearly, opalescent appearance, due to the presence of serum below its surface, which escaped on making an incision. The brain itself was moderately healthy; no softening, nor extravasation, in any part; arteries of the brain rigid and patent, owing to osseous and cartilaginous deposition—this was especially the case in the ophthalmic, vertebral, and internal carotid arteries; very little fluid in the ventricles. *Chest.* Left lung appeared of its natural colour and consistence; right pleural cavity contained a large quantity of fluid. About ℥xx of serous fluid were removed from this part; and in the

fluid there was a large mass of coagulable lymph, very soft, and of the consistence of thin jelly. Right lung healthy, and crepitant at the apex; but below, the texture was of a very dark colour, friable, and heavy, so that it sank in water. On cutting into this portion of the lung, it was found very much congested, did not crepitate, and, on squeezing it, a bloody serosity flowed out. On this side, therefore, there was acute pleuro-pneumonia, which was probably the immediate cause of the woman's death. The heart, seen *in situ*, occupied its natural position, and the apex was placed between the fifth and sixth rib. After removing the lung on each side, the heart, with the arch of the aorta, the innominata, the left subclavian and carotid, and the whole of the thoracic aorta, were all carefully dissected out, and removed together. The right auricle was natural; the tricuspid valves were patent, and admitted three fingers; but the attached margins were rather hard, and thickened. The semilunar pulmonary valves were natural; but the orifice was somewhat contracted. The left auricle was natural; the mitral valves admitted two fingers, but they were thickened and hardened, and contained a considerable quantity of osseous matter; the walls of the left ventricle were rather thickened, but not very considerably. The aortic valves were completely rigid, and converted into bone; and they met in the centre, leaving only a small chink at their juncture in the middle line. Looked at from above, the valves were seen stretched across the aorta, and each of the valves contained, in its sinus, a large mass of bony deposit. The ascending and transverse aorta were very much dilated, being, at least, twice their natural diameter; the innominata was also very much dilated. The lining membrane of all these parts was most extensively diseased, part being converted into atheromatous matter, part exhibiting numerous plates of bone, and part being ulcerated. These appearances were found in many other arteries—not only in the cerebral arteries already described, but also in the subclavians and carotids. *Abdomen.* Liver congested, of very dark colour, and friable; spleen very small, congested; kidneys small, but not apparently diseased.

This, then, was a case of extensive valvular disease of the heart, in a patient who suffered hardly any of the rational cardiac symptoms, but who was attended, at different periods, for various ailments, as diarrhœa, chronic rheumatism, catarrh, chronic bronchitis, lumbago, prurigo senilis, dyspepsia, and, finally, died at the advanced age of eighty-three, of an acute attack of pleuro-pneumonia.

These cases Dr. Semple regards as of great value. "In the first place," he says, "if it can be proved that actual organic disease of the valves of the heart may exist for a considerable period, and without shortening the average duration of life, such a conclusion may tend to divest this class of maladies of some part of the terror which their existence now so commonly inspires; and a patient, who is unfortunately labouring under a disease of this description, may nevertheless be encouraged by the reflection that a disease of the heart, although of a decidedly serious character, may not prematurely put a stop to his career. And if such be the consolation which may, I think, fairly be afforded to those suffering under confirmed and extensive disease, how much more applicable is it to those who are affected only by some of those minor affections of the heart and its valves, which occur so frequently among the sequelæ of rheumatism?

"In the second place, the subject is one of great importance in its relation to the average duration of human life, and the practice of life insurance. The existence of any disease of the heart is, I believe, an insurmountable barrier to effecting a policy of insurance; but I think it probable that in proportion to the accumulation of facts bearing upon the subject, the deductions drawn only from the physical exploration of the heart will not be so exclusively regarded as they have been of late years. But upon this point I wish to be understood as offering a very guarded opinion; for I have no wish whatever to undervalue the importance of the information derived from auscultation; nor do I pretend to assert that the existence of cardiac disease is a matter of slight moment. All I presume to argue is, that cardiac disease, even of a very decided and extensive character, *may* be compatible with long life and with moderate health."

Notwithstanding these opinions, Dr. Semple regards the *treatment* of valvular disease of the heart to deserve the closest attention, and the most zealous ap-

plication of the resources of our art. It is essential that the disease should be checked if possible at its *commencement*. "In the early stage," he says, "of valvular disease, the stethoscope is invaluable; it gives us the earliest intimation of its existence, and we are supplied with means for its repression. The patient suffering under the agonies of articular rheumatism is often unconscious of the mischief going on at the fountain-head of life; the stethoscope reveals the latent evil—vegetations of albumino-fibrine are encrusting the surface of the valves—but the judicious administration of mercury causes the absorption of the peccant lymph, and the channel of the blood is restored. And even when the disease of the valves is unfortunately confirmed, medical appliances may do essential service in alleviating the sufferings which often ensue, and in delaying or averting the fatal catastrophe. The palliative measures which ought then to be adopted, it is almost unnecessary to insist upon. The injunction of the necessity of rest, both mind and body, will be frequently repeated; and the state of the digestive system will, of course, form a prominent subject of inquiry and of treatment. The use of digitalis, which I believe to be of the utmost value in some of the organic diseases of the heart, is, I think, contraindicated in most cases of vulvular disease, in which the current of the blood is diminished, and the vital energies consequently impaired; in such instances, digitalis must undoubtedly do more harm than good, by lowering the force of the heart, and still further enfeebling the circulation. In such cases, it is better to rely upon those measures which are calculated to strengthen the system, and to stimulate the heart to propel the blood through its diminished channel; and I adopt a somewhat tonic system of treatment under such circumstances, as the best calculated to counteract the effects of the valvular obstruction."

20. *Epidemic Cholera.*—Dr. P. H. Williams, in a report on cholera made to the Provincial Medical and Surgical Association, gives a very candid statement of the results of his investigations relative to this remarkable disease.

"It might fairly be expected," he remarks, "that a considerable amount of practical instructions would be supplied by a pathological report founded on the combined experience of the members of the Provincical Medical and Surgical Association, and yet it is a painful duty to record the fact that, with regard to the nature, history, treatment, and prevention of the disease which has formed the subject of this inquiry, very little new information has been gleaned."

As regards the results of post-mortem examinations, he states that "the only important information derived from them, in addition to what was previously well known, is the fact that the state of the intestines was such as must have rendered *any* mode of *treatment* inefficient. They are described as being 'either filled with a gruelly fluid, or else coated with a tenacious pasty layer of mucus.' Under such circumstances, it would be scarcely possible for any medicines to come in contact with the mucous membrane, so as to operate locally, or by absorption. They would probably glide rapidly through the alimentary canal, without producing the least effect."

In respect to treatment, he says, "It is almost needless to assert, for every one is already acquainted with the truth, that nearly everything both in and out of the Pharmacopœia was tried, and in some cases nearly all the preparations that could be shaken in a bottle or beaten in a mortar were *combined* for the purpose of counter-poisoning, if possible, the unhappy victims. The peculiar condition of the intestinal membrane, already adverted to, must certainly have been the cause of immunity from the effect of poisonous doses when administered, as it was also the cause of no benefit arising from the introduction of sanitary medicines.

"According to the evidence submitted for consideration *every* method was successful, and *every* method failed. Venesection and brandy; croton oil and gallic acid; opium and ammonia; sulphate of magnesia and acetate of lead; capsicum and ice; calomel and strychnia; scammony and starch; antimony and quinine; blisters and cider; nitrate of silver and gruel; venous transfusion and cupping; gallons of salines, and total abstinence from fluids; carbon and

oxygen; hot fomentations and cold sheets; in short, *every* thing and nothing has been *in*valuable.

"What deduction must be drawn from such a chaos, when the average mortality under every system was nearly similar! What is to be stated as established, when we find a most intelligent practitioner losing fourteen out of sixteen cases, in spite of every exertion that science and industry could make, and another gentleman assuring us that out of *two hundred* cases of *premonitory* diarrhœa he only lost a single patient? The only conclusion that can be justified by reason, must be this—That there are *many* cases, especially at the commencement of choleric visitations, in which the poison is so virulent that *nothing* can resist its withering influence, and the prostration so complete that *nothing* can restore the stricken energies. That there are other cases in which the poison, being of a less malignant character, and it may be the constitution of the patients less yielding, the disease, if treated at the first onset by *any judicious* method, may be effectually checked. And that there is a third class of cases in which early treatment does not prevent the progress of the malady; it may be said to run its course even to the access of apparent death, and yet from that stage the patient *may* gradually recover, and return as it were from the very threshold of the grave.

"We have thus *three* distinct divisions before us, in one or other of which the majority of cases may be arranged. It is clear that the fatal cases must belong either to the first or third division—*i. e.*, death must occur at an early period before medicines have had time to combat with the enemy, or at a later period when the disease has steadily progressed in defiance of persevering treatment. It should be remembered that in about *half* the cases in 1849 death *did* occur notwithstanding all our efforts; and it will probably be admitted, with regard to the *first* class of cases, that no means with which we are acquainted *could* have saved the victims from destruction. In the third class some patients are to be found who did recover from a state of extreme collapse—patients in whom *every* symptom of cholera was manifested, and who only just escaped in time to live.

"It is with reference to these persons that the greatest difficulty arises; for if no treatment could produce the least impression on the disease till the whole train of consequences, with the exception of actual death, had been fully developed, and then, at the precise moment when the last breath had apparently been drawn, a favourable change began under the most opposite systems of medication, how can it be fairly concluded that the change was owing to any circumstances, except the single fact that the virus was *exhausted*, and the patient had strength to *struggle* back to life? There is no satisfactory evidence that in the worst description of cases one method of treatment was decidedly better than another; nor is there satisfactory evidence that the recoveries which were witnessed under *those* circumstances were attributable to *any* treatment whatever.

"We now come to the *second* or medium class of cases mentioned, viz., those which were amenable to remedies at a comparatively early stage of the disease —those cases in which actual collapse did not supervene. *Why* did it not supervene? If a physician were called upon to attend a hundred patients who had swallowed the same specific poison, and he applied, experimentally, a different medicine to each, and fifty sank into collapse, and the other fifty did *not* do so, what would be his inference? Surely that they who *did not* had either taken a *smaller* dose, or a *weaker* preparation, or had *stronger constitutions*. Our inference with regard to cholera must be analogous.

"We conclude that in the restorations from collapse *no* medicine was efficacious, and we must now conclude that in cases which were free from collapse, *all* medicines were efficacious. And why? Because the dose of poison was smaller, the preparation weaker, or the constitution stronger. Upon this supposition, and upon this alone, the conflicting testimony as to successful treatment can be explained. Calomel, in small doses, might restore the arrested secretions. Purgatives might carry off deleterious elements. Opium and astringents might prevent a further exudation. Antimony might relieve the mucous surfaces by acting on the cutaneous capillaries. Blisters, cataplasms, and fomentations,

might produce a similar effect. The abstraction of blood might relieve the inflammatory tendency which was in many cases noticed. And, in others, stimulants might help the system to maintain its energy until the primary mischief was removed. So that, whatever plan be pursued in a *certain class* of cases, intelligible relief may be obtained, because *each* plan is capable of producing some effect; and it appears to be of little consequence in which way the benefit is conferred.

"It should be stated that the administration of calomel and opium, in small doses and at short intervals, appears to have been the *favourite* practice; but there is abundant evidence to prove its failure, and also to prove that in cases as malignant as any which ended favourably under that plan, recovery also ensued without a grain of either being used during any stage of the disease. Two authentic cases are reported in which the only treatment was *cider, ad libitum.* One of these patients was quite pulseless when the cider was prescribed—*both recovered!* The saline treatment does not seem to have been generally tried, although it was found to be successful in the hands of several careful observers."—*Provincial Med. and Surg. Journ.* Sept. 18th, 1850.

21. *Epidemic Mumps at Geneva and Montpellier.* By MM. Rilliet and Ressiguier.—M. Rilliet, one of the authors of the well-known classical work upon the "Diseases of Children," now settled at *Geneva*, has published a very interesting account of an epidemic visitation of mumps, which prevailed there from March 1848 to May 1849, Dr. Lombard having assisted him in the acquisition of many of the facts. Still the exact number of cases could not be ascertained.

In the great majority of cases there were no premonitory symptoms, those of a local character being the first intimation of illness the patient received. We need not detail these. The tumefaction of the parotidean and mastoidean regions continued increasing from four to six days, and, after remaining stationary, then rapidly diminished, so as to have disappeared by from the seventh to the tenth day—the submaxillary gland continuing hard and swollen, in several cases, long after the resolution of the parotidean tumour. The most frequent cases were those in which the tumefaction was of medium size only; but in some it was enormous, extending almost to the external extremity of the clavicle. In such, and in subjects predisposed to neuralgia, the pain was severe and even violent, but in the other cases moderate—it being usually spontaneous, but also augmented by pressure and every movement of the jaw, which, indeed, was sometimes almost as immovable as in tetanus. In some cases, when the mouth could be sufficiently opened to allow the tongue to pass, the patients were unable to protrude it. In no case did Dr. Rilliet or any of his colleagues witness salivation, nor, when examination of the mouth and fauces was practicable, could any exanthema be observed. The swelling was usually double, but rarely so at first, commencing usually on the left side, and then proceeding, in a period varying from twelve hours to three or four days, to the opposite side, one gland being almost always more swollen than the other.

The accompanying constitutional irritation was not prolonged beyond forty-eight hours, save in very bad cases. A feeling of great lassitude and debility, accompanied or followed the appearance of the swelling, several patients not recovering their ordinary strength for two or three weeks. The cure was always more prompt and complete in children. The duration of the disease, in slight cases, and in children, was but four or five days; but, in other cases, usually eight or ten; then six or seven, and, lastly, seven to eight days. In some it continued even to the fifteenth day. Authors speak of this disease terminating by *suppuration;* but no example of this occurred. It is very rare for the disease to attack children under two years of age, and no example occurred under one. So, too, after forty, cases were very rare. The maximum number occurred between five and fifteen. The two sexes were affected nearly alike.

M. Rilliet believes the disease to be analogous in its nature to *eruptive fevers, and to be contagious.* The period of incubation is as difficult of determination as in other fevers; but both the author and M. Lombard believe that it is most often found to be from twenty to twenty-two days, and then from four-

teen to eighteen days. Still, in one of the best-marked cases it did not exceed eight days. In families, the disease usually appeared successively, not simultaneously. The experience of the author and his colleagues is favourable to the non-recurrence of the disease, attacks at former periods of life exerting a marked preservative power. Like other febrile diseases, too, this has occurred as an epidemic—so considerable a one not having been observed at Geneva in the memory of man, the number affected being, as in measles, proportioned to the length of interval between the visitations. It prevailed equally in warm and cold weather, during its continuance. During its prevalence various other diseases were observed; but roseola was especially so during its height, not the simple summer roseola, but an eruption very analogous to rubeola.

The treatment of the disease was very simple, frictions with anodyne substances being especially resorted to when the pain was great. Blood-letting was never required, but stimulating pediluvia were employed as revulsives. In children, in whom the digestive organs were usually disordered, emetics were found useful, and almost always slight aperients were given during convalescence. In some cases, tonics were eventually required, as were anodynes when the pains were urgent.

The only complication which the author has had frequent opportunity of observing, has been *orchitis or engorgement of the testis*. He met with but one case of tumefaction of the labia. The orchitis did not usually commence with severe pains, and the patients have been surprised at discovering the amount of swelling. This usually reached its height in from four to six days, diminished on the sixth or seventh, and had disappeared in from eight to fifteen. At the commencement the scrotum was not œdematous, and the testis rather than the epididymis was attacked with the swelling, which never acquired the hardness of blenorrhagic orchitis. In slight cases, the testis was half as large again as natural, but in severer cases its volume became doubled or even quadrupled. When the epididymis was affected, it was to a less extent than the testis, and was much indurated only in one case. The cord was almost always normal, but sometimes a little enlarged. Sometimes, on from the third to the twelfth day, the scrotum also became swollen, with or without redness, the swelling, sometimes considerable, being œdematous; and when the scrotum was implicated, both the swelling and pain were much greater than when the testis alone was affected. It was in these cases that general febrile symptoms were most marked. When the orchitis was cured, the testis in general returned to its normal condition; becoming, however, in some cases atrophied.

The orchitis usually appeared the sixth or eighth day, very rarely from the third to the fifth, and the parotid swelling had almost always much diminished; but no case of *metastasis*, properly so called, was observed, nor any example in which the orchitis suddenly disappeared, and the parotitis re-appeared. While the parotitis was oftener double, the orchitis was oftenest unilateral; and orchitis on the right side was observed in thirteen out of twenty-three cases, and in four it was double. In two cases there was orchitis without parotitis. The greatest number of persons attacked by orchitis were between twenty-three and thirty-eight years of age—the youngest being fourteen, the eldest forty-five. Most examples occurred in the lower class of patients, and the complication especially prevailed in January—twice as many cases then occurring as in all the other months together. The treatment of the orchitis was very simple, as by linseed poultices, fomentations, goulard water when the scrotum was œdematous, &c. Sometimes an emetic was given, and in three cases blood was abstracted.

M. Ressiguier supplies a much less exact account of the epidemic which prevailed at *Montpellier*. It was first observed in February, 1848, and by April its epidemic character had become evident. In this month, the metastatic symptoms were first observed. It became less frequent in June, and sporadic cases were alone observed in July. The swelling usually took on the characters of active œdema rather than inflammation, but in several cases it required leeching. When both sides were affected, they were almost always so successively, the left usually taking the precedence. The accompanying fever usually abated when the tumour was completely developed; but, in other cases, con-

tinued during the entire duration of the case, and was attended by exacerbations. In most cases the œdematous engorgement was dissipated in five or six days, but in others required double the time. It never terminated by suppuration.

In some cases, as the parotid tumour diminished, orchitis showed itself, and between March and June none of the patients were secure from this. In the present epidemic, while the parotitis was as yet unaccompanied by orchitis, a young man became the subject of this without having had any parotid affection whatever; and Groffier, who has left an account of a prior epidemic in this town, in 1806, relates the case of a man in whom, after the disappearance of an orchitis, the parotitis became developed. A similar case also occurred on the person of a soldier during the present epidemic; and in other patients the two affections appeared simultaneously. In the majority of cases orchitis showed itself on the opposite side to the parotitis, and only in one case was it double, though this was of frequent occurrence in the parotitis. The present epidemic confirms the statement of Laghi, that the so-called metastasis is never seen before puberty, and very rarely in the aged.

The present epidemic, like former ones in 1757 and 1799, especially attacked the soldiers in garrison.—*Brit. and For. Med.-Chir. Rev.*, Oct. 1850, from *Gaz. Méd. de Paris*, 1850.

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22. *The Bronchocele of New-born Infants.*—Dr. Betz, of Tübingen, has published an interesting essay upon this subject. He attributes the silence of authors respecting it rather to their having overlooked the affection than to its rarity. Such children are usually stout and full-blooded, and the enlarged thyroid may be mistaken for a mere fold of fatty integument. In some, the neck seems merely too broad, while in others it undergoes no change; these differences depending upon the part of the gland engaged.

Immediately or very soon after birth, a marked difficulty of respiration comes on, which may prove fatal in a few hours, or in two or three day's only. The inspirations are deep, being accompanied by a peculiar croaking tone, that may be heard outside the door. The expiration is also very laboured, and sometimes accompanied by a cry. At times the breathing seems quite arrested, so that the child is in the most extreme danger from suffocation, until, with a cry, inspiration again occurs. The dyspnœa is sometimes irregularly paroxysmal. The alæ nasi are usually expanded, and the lips and hands of a blue colour. Sucking is impossible, and attempts produce the most extreme dyspnœa, which is also excited if the child be fed, the greatest difficulty prevailing in getting it to swallow the least quantity. The mouth is full of saliva and mucus, which collect in small bladders between the lips. According to the amount of disease the remissions are longer or shorter, and the child sometimes at last goes off quite unexpectedly.

The affection consists in a simple hypertrophy of the thyroid; no change in its normal structure, save perhaps some increase in its vascularity, being observable. The whole gland may be affected, giving a crescent shape, and where an isthmus connects the two lobes the neck assumes a great breadth. In other cases only one lobe or even only the apex of that may be affected, and the nature of the disease be undetected. The passage to the larynx and trachea is more or less impeded, while the posterior development of the tumour impedes swallowing, and endangers suffocation in the attempt. The accumulation of mucus is an additional cause of obstruction. It is not merely the size of the swelling of the lobes, but its position, that determines the amount of danger.

The affection would seem sometimes to be hereditary, or at all events it affects several members of the same family. Various friends of Dr. Betz have observed this bronchocele of infants, but he is not disposed to consider it as especially endemic at Tübingen. He thinks that the suffocative dyspnœa and death resulting from this disease may elucidate the nature of some of the cases of laryngeal asthma, spasm of the glottis, thymic asthma, or laryngysmus, concerning which so much confusion and doubt at present prevail. An enlargement of the thymus may certainly co-exist with one of the thyroid, but this last

affords a much more rational explanation of the symptoms. Thymic enlargement may induce dyspnœa, but not the laryngeal disturbance. Atelectasis, too, the author believes, is often due to the impediment caused by this enlarged thyroid.

In a disease so rapid in its progress, little time remains for treatment; but where this is obtainable, leeches should be applied, and an emetic given. Where the hypertrophy is less considerable, and the disease more prolonged, the internal and external use of iodine would be deserving of a trial.—*Med. Times*, Sept. 7, from *Henle and Pfeufer's Zeitschrift*, ix.

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23. *Nightmare caused by Excessive Elongation of the Uvula, and cured by Excision of the Part.* By M. West, of Belgium.—Bronckaert, a fusileer of the 7th infantry, who had been a soldier since January 1849, of feeble aspect, came to M. West, in the course of last March, to request twenty-four hours' exemption from duty, to enable him to recover from the fatigue and fright which he suffered during the night from the apparition of a monster, which threw itself suddenly upon him, so as nearly to smother him, and against which, he said, he had struggled for a long time before making his escape. This strange story led the author at once to suppose that the man had had nightmare. After quieting his mind upon the subject of the monster, which so much alarmed him, the doctor gave him twenty-four hours' exemption, at the same time telling him not to come back to him upon the subject of his dreams. He thought he would not see the man again, but next day Bronckaert came back to say that he had passed a night as horrible as the preceding one. M. West tried to explain to the man the absurdity of his terror; advised him to take a little food in the evening, to sleep on his right side, with the head and shoulders a little raised, thinking that these means would suffice to relieve him.

Bronckaert's torments, however, not having ceased, he came again to the doctor, after having followed his advice for three weeks, and told him that he now saw no hope for relief from these attacks, which had begun more than a year before his enlistment, and under which he expected soon to perish. Having remarked during the interview an obvious imperfection in the man's respiration, Dr. West looked into his mouth to examine the cause, and saw, to his astonishment, that the uvula was about two inches long and four lines broad, although the man had never referred any of his complaints to this quarter. Thinking that the long uvula was the cause of the suffocation and fright which the man suffered during his sleep, Dr. W. instantly cut off from the uvula an inch and three-quarters of its length. The portion excised, being of unusual length, was preserved in spirits, and, after the usual shrinking from the alcohol, still measures an inch and a half.

Dr. West saw the man next morning. He was in an ecstacy of joy. The monster had not re-appeared, and he had passed a good night. That the uvula getting into the glottis was the cause of the man's sufferings appeared both from the complete relief which he thus obtained and from his subsequently becoming strong and fat.—*Monthly Journ. Med.*, Sept. 1850, from *Archives Belges de Méd. Militaire.*

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24. *Ozæna.*—M. Max-Simon, in relating a case of this disease, makes several interesting remarks. Sometimes, he observes, it arises from ulceration of the Schneiderian membrane; at others, a deformity of the organ, whether congenital or acquired, prevents the free discharge of the mucosities of the nose, while in some cases there are signs of simple chronic inflammation. Another class of cases, of which this is an example, arises from a morbid condition of the economy at large, inducing modification in the condition of the secretion: just as we meet with intolerable stinking secretion from the feet in persons perfectly clean; a peculiar odour from the axilla, occurring in others besides the red-haired, in whom it is normal; and an insupportable condition of the breath in certain menstruating women. In such cases as these, the most careful examination exhibits no marks of inflammation or ulceration. The ulceration, in fact, which is met with in syphilis or other diseases, is not the cause of this peculiar stench, which is different from the smell they produce. A delicate

young lady, æt. 14, had been under M. Simon's care for several years for well-marked ozæna. Repeated examinations exhibited nothing abnormal, the mucous membrane being pale and not thickened, and the mucus itself normal in appearance, though sometimes increased in quantity. All medical treatment, whether local or general, proved quite unavailing, so that at last all was abandoned, but extreme cleanliness, and attention to maintain the general health in as good a condition as possible. However, menstruation came on, under the influence of which her system became much stronger, and her health far better, and the fœtid odour diminished, to entirely disappear sixteen or eighteen months after the menses had become established. Another proof of the constitutional character of the disease in this case, and of the inutility of local measures, is found in the fact that a blister having been applied to the girl's arm, the serum furnished precisely the same smell. Her mother, too, suffered from the same infirmity, although by excessive cleanliness she kept it somewhat concealed. Her nose was a flat one, but that of her daughter was well formed.

These well-marked cases must not be confounded with a mere temporary unusual odour of the nasal mucus. In some persons, this is liable to become accumulated or suppressed for a longer or shorter time. In the case of a young man, in whom there is no congestion of the mucous membrane, thickened mucosities are blown out from time to time, having a distinct spermatic smell. A young girl, at times, exhales mucus having the characteristic smell of ozæna, and then, without the slightest care on her part, this disappears.

When the disease depends upon a mere perverted action of the mucous membrane, the nitrate of silver injections are very useful; but when it is a constitutional affection, all local applications are mere palliatives. The greatest cleanliness is essential, and scented waters should be frequently injected into the nose. Sauvages found advantage, in some cases, from the setting up a substitutive action by the use of snuff.—*Brit. and For. Med.-Chirurg. Rev.*, Oct. 1850, from *Bulletin. de Thérap.*, vol. xxxix.

25. *On the Diagnosis of Tape-worm, from the character of the Nervous Symptoms induced by its presence.*—M. Legendre, has published an interesting memoir, upon the nervous symptoms produced by tape-worm, in the *Archives Générales de Médecine* for June 1850. He places the facts of this department of diagnosis in a very clear point of view; and, on this account, we think it right to call the special attention of our readers to the following brief abstract of his paper. When anomalous nervous symptoms perplex the physician, it is always right to compare them with those which are known to be caused by tape-worm; and if any room for suspicion of its presence exist, it is always imperative to administer a vermifuge. We say *always*, because the experiment is at least harmless, as the perfect safety, as well as the general success of the kousso has now been fully established on unimpeachable authority. We would, in all cases, prefer this medicine, or the oil of the male fern, to the bark of the root of the pomegranate, which is considered by M. Legendre to be the best. The latter is likewise, undoubtedly, a most valuable drug for dislodging the tænia; but it is not quite equal to the kousso, or the male fern.* The following is the substance of M. Legendre's paper.

Thirty-three fully reported cases are carefully analyzed.†

Disorders of the cerebro-spinal nervous system occurred most frequently; viz., in twenty of the thirty-three cases. They were in twelve cases, of a convulsive character, occurring several times, or oftener (being eight times epileptiform, and four times hysterical). In eight of the cases the convulsive movements were partial, being confined to the face, or to a single limb. In fourteen of the thirty-three cases, the convulsions were succeeded by vertigo and cephalalgia.

* London Journal of Medicine, vol. for 1850, p. 896.

† The following are stated to be the sources whence the cases have been derived. "*Archives Gén. de Méd.*, 1840. *Gazette Méd.*, 1839, p. 601; 1840, p. 633; 1843, p. 38. Louis, Observations recueillies à l'hôpital de la Charité sur la Tænia. *Archives Gén. de Méd.* Mérat du Tænia et de sa cure radicale par l'écorce de racine de grenadier, obs. 14, 15, 17, 18, 19, 22, 24, 25, 26, 27, 82, 108, 119, 120, 121, 142, 154, 155, 157."

Swooning, complete or incomplete, was noted in about a fifth of the cases; viz., seven times.

Disturbed vision was noted in six of the thirty-three cases. This consisted in double vision or in the presence of flocculi, of *muscæ volitantes*, and of luminous flashes. One patient is mentioned as having had periodical blindness.

Buzzing in the ears is only mentioned as having occurred in three of the cases.

A pricking or gnawing sensation at the epigastrium existed in fourteen of the thirty-three patients. The symptoms now enumerated rarely existed singly in one patient, and two or three of them were generally present in the same individual.

Whenever one or more of the above symptoms are observed, and no other explanation can be given, an investigation should be made to determine whether they may not depend upon tape-worm. If the physician discover that the patient have a gnawing at the stomach, capricious, or insatiable appetite, abdominal pain, a feeling of general prostration, or itching at the entrance of the nostrils or anus, there can be little doubt of the presence of the parasite. M. Legendre believes that the best time for giving vermifuge is when the symptoms are most urgent, or when some parts have been spontaneously voided. He says that Wawruch, of Vienna, in an analysis of two hundred and six cases, attributes such occurrences to lunar influence; asserting that they occur most frequently at the full moon, or during its decline, and that it is, likewise, at these times that the patient suffers from an exacerbation of the symptoms. It was not till M. Legendre had finished his researches that he became acquainted with the analysis of M. Wawruch's paper, published several years ago, and which, from its value, we subjoin.—*London Journ. Med.*, Nov. 1850.

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26. *Wawruch on the Causes and Symptoms of Tape-Worm.*—The following is an extract from an abstract, contained in the *Gazette Médicale* for 2d October 1841, of a paper published by Professor Wawruch in the *Medicinische Jahrbucher der Œsterreichischen Staaten.*

During the period of twenty years, Dr. Wawruch treated 206 persons affected with tænia; 71 men, and 135 women. The oldest person was aged fifty-four; the youngest, three and a half years. Twenty-two were under fifteen years of age; and among these were six girls who had not menstruated. Most of the patients were from fifteen to forty years old. The patients belonged to the middle and lower classes; they nearly all inhabited the district lying along the Danube, or lived in low and damp dwellings. They followed very different occupations, and their mode of life was various. It is remarkable that the same conditions which give rise to scurvy in Vienna also produce tape-worm. The articles of food which seemed chiefly to engender tape-worm were bad bread, meals of milk, butter, cheese, potatoes, pork and mutton, and bad water. The diseases which preceded the formation of tænia were gastric and cutaneous affections, but especially gastric and intermittent fevers. There were observed forty-three cases of intermittent fever, twenty of gastric fever, sixteen of typhoid fever, ten of ringworm and herpes, forty-two of itch, eight of scarlatina, thirteen of measles, and two of chronic urticaria. Scurvy, syphilis, chlorosis, and other diseases which affect digestion, were also observed to precede tænia; but, in general, few of the individuals affected with tape-worm had not had lumbrici when young. The influence of hereditary predisposition is very doubtful. Dr. Wawruch only saw two instances; in one, a mother and daughter, in another, a father and son, had tænia. Irregularity of the menstrual function seemed common; thus, thirteen females had only menstruated at the age of 16 years, twelve at 17, nine at 18, seven at 19, and one at 20. The duration of the disease was from a few months to ten, twelve, fifteen, twenty, twenty-five, and, in one case, even to thirty-five years. Of the 206 patients, three only, who were foreigners, had *bothriocephalus;* the others had *tænia solium.*

Symptoms. The symptoms of tænia are very various; the following are stated by Dr. Wawruch to be the most constant.

1. Dull pain in the frontal region, vertigo, noises in the ears; and, in some

a kind of idiosyncrasy for music. 2. Eyes dull, surrounded by a blue ring; œdema of the upper eyelid; pupils dilated; frequent involuntary action of the muscles of the eye; various aberrations of sight, as amblyopia, diplopia, ormuscæ volitantes. One patient complained of a periodical blindness during the day. 3. Frequent change in the colour of the face; lips lead-coloured; a peculiar look about the mouth and nose; the appearance of general cachexia is not constant, for the patients often preserve a flourishing aspect for some time: many of them say they have become thinner. 4. Anorexia, alternating with such a voracious appetite that the patients faint if they are not supplied quickly enough with food; desire for certain articles, as carrots, milk, wine, bread, etc. 5. Fetid breath, clayey taste, loaded tongue, salivation, nausea, and even vomiting of liquid, as clear as water, in the morning. 6. Itching of the nose and anus, and of the vagina in females; grinding of the teeth, especially during sleep; accumulation of a clear fluid in the mouth; transient heat, languor, palpitation. The sensation of a cold hand pressing on the heart (considered as a pathognomic symptom by Reinlein) has never been observed. 7. Abdomen tumefied; borborygmi; a sensation of suction, constriction, and pricking, around the umbilicus, and undulatory movements, as of a foreign body in the intestines—especially in the morning; cessation of these symptoms after taking farinaceous food, hot bread, or *café au lait;* frequently diarrhœa, alternating with constipation. 8. When the disease has continued for some time, and the patients are of an irritable temperament, there often arise a train of nervous symptoms, as melancholia, syncope, aberrations of the senses, disturbed sleep, frightful dreams, partial and general convulsions, chorea, epilepsy, aphonia, and loss of speech. 9. The most certain pathognomonic symptom is the evacuation of one or more portions of tape-worm, either spontaneously, or after certain severe illnesses—as scarlatina, typhoid fever, pneumonia, etc.; or after the use of certain articles of food, as garlic, horseradish, cucumber, etc.; or after the administration of anthelmintic medicines. The portions are sometimes evacuated at indeterminate periods, but generally at new moon, or at the decrease of the moon; and, at these times, also, the other symptoms are increased in severity. —*London Journ. Med.*, Nov. 1850.

27. *Cod-liver Oil in Phthisis.*—M. Duclos thus sums up the results of his experience with this substance; 1. The presence of fever is what we must chiefly attend to, relying more on this remedy when it is absent, and less when it is present. 2. The remedy frequently arrests the progress of the disease when only in the first stage. 3. It rarely arrests it when in the second stage, although it may retard it. 4. The third stage is not favourably influenced by the oil. 5. The oil should be administered for a considerable time; and, if a good effect results, it should be suspended awhile, to be again resumed. Thus, it may be given for two months, and then suspended for a fortnight, resumed for a month, and re-suspended for a fortnight again, so as gradually to reduce the length of the intervals during which it is given. 6. The clear, slightly smelling, nearly tasteless oil, is less efficacious than the brown, thick, strong oil.—*Brit. and For. Med.-Chirurg. Rev.*, Oct. 1850, from *Bulletin de Thérapeutique*, xxxviii.

28. *Inunction in Scarlatina.*—During an epidemic scarlatina in Berlin, Dr. Ebert tested the value of the treatment introduced by Dr. Shneeman, of which we gave an account in our last, No. (p. 503, *et. seq*). The result has been tolerably encouraging. Of twenty-eight cases of severe scarlatina, six died and eleven recovered. Of the six deaths five had not been submitted to inunction; the remaining one was an infant, who died suddenly after one rubbing. This fatty inunction appeared to hasten rather than to prevent the exanthem. In those cases which were assiduously anointed, no desquamation occurred, neither were any of the sequelæ, as anasarca, abscesses, &c., observed. The anointing was also thought to prevent infection.—*Schmidt's Jahrbucher*, June, 1850.

SURGICAL PATHOLOGY AND THERAPEUTICS, AND OPERATIVE SURGERY.

29. *History of a successful case of Ovariotomy.* By W. E. Duffin, Surgeon; *with a description of the Morbid Anatomy of the sac, and an analysis of one hundred and eight cases of ovariotomy which have occurred in Great Britain.* By Robert Lee, M. D. [The following account of a case of ovariotomy, read before the Royal Medical and Chirurgical Society, with the report of the discussion to which it gave rise, is so interesting and important as showing the opinions of some of the most eminent surgeons of Great Britain relative to that operation, that we are not deterred by its length from laying it in full before our readers. We would especially invite attention to the remarks of Mr. Lawrence, one of the most experienced, learned, and judicious surgeons of the present day.]

A woman, thirty-eight years of age, having her abdomen enlarged to the size of the eighth month of pregnancy, this size having been attained in seven or eight months, her general health appearing to be good, applied to the author for relief by operation. The rapid growth of the tumour, which appeared to be connected with the left ovary, had been accompanied by neuralgic pains in the right thigh, in consequence of pressure on the sciatic nerve of that side. The tumour was very movable, indicating the absence of adhesions. The patient was very urgent in her desire for the operation, and very confident that it would be successful; it was accordingly performed on the 27th of August last, by the author, assisted by Messrs. Ferguson, Ure, and Henry Smith; chloroform having been previously administered by Dr. Snow. The incision, at first of only sufficient size to admit the fore-finger for exploration, afterwards enlarged to three inches, was made in the linea alba, midway between the umbilicus and the pubes. The absence of adhesions having been ascertained, the sac was punctured by a trocar, and one hundred and thirty ounces of a viscid, ropy fluid of a light brown colour were let out. The collapsed cyst, containing a smaller cyst the size of an orange, was drawn through the incision, and its pedicle secured by ligatures. The tumour was then separated, and the pedicle and ligatures were prevented from receding into the cavity of the abdomen by other ligatures attaching them to the wound. The ligatures came away on the fifteenth day, and the wound was healed on the twenty-second day, the abdomen resuming its natural shape and size. The patient was kept on a light diet, she took opium in sufficient doses for six successive nights, and the bowels were opened by enemata. On the eighteenth day, she was able to get about a little. Her recovery has been complete, and she has been able to resume the occupation of a dressmaker.

Dissection of the Cyst. By Robert Lee, M. D., F. R. S. The walls of the cyst are composed of three distinct coats or layers. First, a peritoneal covering; secondly, a middle fibrous coat; and thirdly a dense, membranous sac, in which the fluid was contained. In the divided pellicle are seen the cut ends of three large arteries, and of one large vein, and of the Fallopian tube. The peritoneal coat is thin, and loosely attached at the root of the cyst; but beyond this it is thick, opake, and firmly adherent to the tissue below. The middle coat is thick at the root, and contains numerous branches of arteries and of nerves with ganglionic enlargements. It becomes thinner as it is expanded over the cyst, is of a dense, fibrous structure, and adheres firmly by both its surfaces. The internal membrane is firm and thick, and its inner surface is rough, irregularly puckered, and in some spots of a brown or yellowish colour. It consists of two distinct layers, like the coats of a Graafian vesicle. A smaller cyst is situated near the root of the larger, imbedded in its middle coat, projecting into its cavity, and invested by its lining membrane, which it has pushed before it. The lining membrane of this smaller cyst also consists of two distinct layers, like that of the larger cyst. A group of small multilocular cysts is contained in the middle fibrous coat of the great cyst, and between the outer surface of the smaller cyst and the peritoneum. They have the same structure, contain a similar fluid, and bear the same relation to one another as the two cysts above described. The author remarks that the walls of this ovarian cyst contain all the elementary structures which enter into the composition of the human ova-

rium in the healthy condition—peritoneum, stroma, and Graafian vesicles, with blood-vessels and ganglionic nerves. Whether all multilocular cysts are formed in the same manner, future observation must determine.

The author commences with the history of a case of ovarian dropsy successfully removed by a surgical operation, and reported in the *Edinburgh Medical and Surgical Journal* for 1822, by Dr. Nathan Smith, Professor of Physic and Surgery in Yale College, Connecticut. He then gives an account of an operation performed by Mr. John Lizars, of Edinburgh, in 1823, when *no* ovarian disease was found after the abdomen had been opened; of three other operations, by the same surgeon, when the diagnosis was more accurate, in 1825 and 1826; and of two operations by Dr. Granville, in 1826 and 1827. He then refers to an operation performed in 1833, by Mr. Jeaffreson; and to three operations by Mr. King, in 1834 and 1836. During the last twenty-seven years the operation has been attempted or performed more than one hundred and thirty times in Great Britain. Of one hundred and eight cases, of which authentic reports have been received, in thirty-seven cases either no ovarian cyst or tumour to remove existed, or there were present ovarian cysts and tumours, the removal of which was found to be impracticable, and the operation was abandoned. Of these thirty-seven cases, fourteen were fatal. The analysis given of one hundred and eight cases of ovariotomy shows that in thirty-seven, or about one-third of the whole number, it was impossible to determine *previously* whether ovarian disease actually existed, or when it did exist, whether its removal was practicable. Of the seventy-one cases in which ovarian cysts and tumours were removed, twenty-four proved fatal, in fourteen of which the operation could not be completed. In the tabular analysis of the one hundred and eight cases appended to the paper, it appears that forty-five cases are reported by Dr. Clay and eleven by Mr. Lane; and to both of these gentlemen the author expresses his thanks for the manner in which they have communicated to him the entire results of their experience of the operation.

The PRESIDENT having called attention to the importance of the paper,

Mr. CÆSAR HAWKINS rose and said—As my name has been enumerated among those who have performed this operation, it is obvious that I have been disposed to look upon it favourably, from the accounts of the cases which have been published, in which it has been done. But I must confess that for the last three or four years I have not altogether felt the same confidence in the propriety of the operation, and have seen the great necessity of the fullest information regarding it. It is well known that the operation has been very frequently attempted, and it is generally believed that a considerable proportion of the operations have been fatal, or have been impossible of completion, of which the public have no information. Nor could I overlook the fact that the operation has now been attempted by ten surgeons attached to hospitals in London; that not one of these gentlemen has performed it twice; and that of these ten cases the only one in which the patient was fortunate enough to recover from the operation was that in which I myself operated. I think, therefore, that the Society and the profession at large are much indebted to Dr. Lee for the table of cases which he has laid before us; and I feel this the more as I believe it is owing to my suggestion that he has done this; and I must say I was delighted, when I spoke to him about it, to see him take out his tablets, and enter my suggestion in his usual short-hand notes. I felt that many of the cases hitherto recorded as having been done in foreign countries, and mixed up with our own in previous tables, were not detailed with sufficient accuracy or precision to be at all relied upon as safe guides; I felt assured that a sufficient collection of English cases now existed to settle completely the great question of the principle of the operation, and that either through the right feeling of the operators themselves, or through some of their friends, authentic histories of almost every case could be obtained, whether successful or unsuccessful, by the industry and perseverance of Dr. Lee, if he undertook such an investigation. I have little doubt that I shall be able, by examining such a table, to satisfy my own mind; and I dare say some gentlemen may already have thought that if in so large a number as thirty-seven cases—a third of the number contained in the table now given to us—it were unable to have the operation completed be-

cause of adhesions, or because there was no tumour at all, that the propriety of the operation being performed in any case whatever was at once determined in the negative. But one thing has struck me with much regret, in the reading of this list of operations; I mean, the omission of the names of two gentlemen, who are generally supposed to have done this operation very frequently in London. I do not know whether these gentlemen are present in this room, but I hope that they are. It is not my intention to say anything that can be considered offensive, and I hope, therefore, that they will not be offended with me if I appeal to them, by expressing my desire that before this table is published, as I doubt not it will be, by the council, they will give the result of their experience to Dr. Lee, and that he may be allowed to incorporate their cases, with any others that he may hear of, in an amended table, with a more complete analysis of the results. One of these gentlemen, whom I venture to allude to—I mean Dr. Frederic Bird—has actually put on record, in some publication of his first successful cases, his opinion of the impropriety of withholding any information from the public with regard to this very operation. I appeal, therefore, to him with the greater confidence. He stands pledged to the profession to give them an account of all that he has done on this subject. He has a perfect right, it is true, to give this information when and in what manner he pleases; but I do hope, when a person of Dr. Lee's character and standing in the profession is endeavouring to obtain complete statistical knowledge of such a very important subject, that both Dr. Bird and Mr. Walne will consider that the time has now arrived for them to make their experience available to the profession. We shall then have ample and authentic facts to reason on, and shall be able to settle the principle of the operation at once and for ever.

Dr. Frederic Bird remarked that he could not but express his surprise at the omission of his cases in the table compiled by Dr. Lee; for although he had declined giving to Dr. Lee the details of his operations, yet he had sent to him their results, and had, by letter, informed him that he had extirpated ovarian tumour twelve times—eight times successfully, and four times without success. He had declined giving to Dr. Lee any details of his operations because he objected to the manner in which Dr. Lee's tables had been arranged—an arrangement which was at least open to error, if it were not in itself erroneous. He preferred to publish his own cases; he was about doing so, and the result of his experience would be laid fully before the profession.

Dr. Lee replied that it was true that Dr. F. Bird had furnished him with the bare results of the twelve cases in which he had operated; but this information was so meagre that he could not, in justice to the completeness of the other cases in his table, add them to that document. Dr. Bird had declined to give him any further information on the matter. Besides, no mention was made in the communication of Dr. Bird of those cases in which an attempt had been made to remove the tumour without success. Under these circumstances, he had left out the cases of Dr. Bird altogether. Mr. Walne had also declined to furnish him with the particulars of his cases, and they had, therefore, been omitted also.

Dr. Bird having been asked in how many cases an attempt had been made by him to remove an ovarian tumour in which the operation could not be concluded, said that he had frequently made small incisions into the abdominal parietes for the purpose of determiuing the presence or absence of peritoneal adhesions, where no other means of inquiry could determine the question. Not unfrequently cases occurred in which from the large size of the tumour, or other causes, the ordinary means of examination was insufficient, and when the only means of completing the diagnosis was that of making a small incision—a practice which he believed to be often admissible, and not less safe—the fear of subsequent peritonitis could scarcely be entertained, inasmuch, as the close adhesion of the ovarian tumour to the parietes, when such adhesions existed, prevented the peritoneal cavity from being exposed, and there was no danger of subsequent inflammation; whilst if no adhesions existed, the tumour could be removed. He believed the practice to be, when necessary, safe—speaking quite at random as to numbers. At that moment, he was almost afraid to state any number of cases in which small incisions had been employed without sub-

sequent danger—probably he might startle some gentlemen by stating as many as forty or fifty; but of this number he was speaking quite at random, not having made any reference to his notes of cases—certainly in no instance did any bad result ensue.

Mr. Curling inquired in how many cases patients had died after exploration.

Dr. F. Bird.—In none.

Dr. Lee remarked that in one case explored by Dr. Bird in the Free Hospital, he had been informed the result was fatal.

Dr. Bird.—In that case, no operation for removing the tumour was ever thought of; tapping only was resorted to, and a tube left in.

Some conversation now took place respecting the propriety of reading a letter from Mr. Chance, respecting the case under dispute; but the chairman decided that it was not desirable to read it.

Dr. Lee said that in the table before the Society, out of thirty-seven cases in which the tumour had been attempted to be removed without success, fourteen of the patients had died. This fact was amply sufficient to show that what was called "the exploration" of these tumours was by no means a harmless proceeding.

Mr. Cæsar Hawkins.—I venture to rise once more, and to repeat the appeal which I before made to Dr. Bird, that his cases may be given to Dr. Lee, to be added to his table before its publication; and I feel assured that I am only expressing the wish of every member of this Society, that every case in which the operation has been performed or attempted to be performed in this country may be communicated with the liberality which has characterized almost every one who has operated. Everything that has passed in this room shows still more strongly the necessity of this being completely done, in order that any legitimate deductions may be drawn from such a table. Dr. Bird has informed us, that besides the twelve cases in which he actually removed the ovary, of which eight were successful and four died (not communicated, however, in time to Dr. Lee), he has made incisions of an exploratory character in forty or fifty other cases, which he is unwilling to have considered as examples of the operation; not being quite certain of the number, we will call them only forty. Now, whatever Dr. Bird may think of it, I am quite sure that no other operator will consider it a trifle to make an incision into the abdomen of several inches in length; and all these cases ought in common fairness to be reckoned as cases of attempted ovariotomy. No doubt Dr. Bird has refused the operation in some cases, so that these exploratory openings must have been made because they were not quite so clear to him; and in all these forty cases he was doubtless prepared had he found the operation practicable, after this incision was made, to have gone on with them to the entire removal of the tumour. Observe then the result of adding these forty attempted removals to the thirty-seven recorded by Dr. Lee; we at once have no less than seventy-seven cases in which the operation could not be finished after it had been commenced—actually half of the entire number of operations which the table would then contain. Sir, before I came here to-night, I made this extract of what Dr. Bird has himself said—"Another and not less important source of fallacy arises from the fact that a most reprehensible practice exists of suppressing the publication of unsuccessful cases. Several such have occurred, the faithful relation of which might have shed much additional light on the operation, but are still carefully concealed from the profession." Of course, sir, I have no intention of accusing Dr. Bird of doing this, and I may be wrong in calling these forty instances in which he opened the abdomen by the name of unsuccessful attempts to perform the operation of removing the ovary; but I have a right to think them such, unless all their details are given by him. He stands pledged to afford these details to the profession in the extract I have just read; and although, as I before said, he has perfect liberty to do this when he thinks right, I do trust he will satisfy himself, on further consideration, that he cannot do better than take the present opportunity of giving them to a gentleman of Dr. Lee's rank in the profession, for the scientific purposes of this society.

Dr. J. B. Thompson said it would appear that the operation of ovariotomy was

more fatal in this climate than in the east, where he had been lately practising. In Damascus, two-thirds of the cases operated upon had been successful.

Mr. B. PHILLIPS said—I entirely concur with Mr. Hawkins in his reprehension of the practice which now so largely prevails, of publishing successful, and withholding unsuccessful cases—a practice which ought to be visited by the indignant reprobation of the profession. It is a suppression of the truth, which every honest man would condemn, and unless there be any code of honour, or morals, which allows of medical men doing what other classes of society could not do without degradation, the practice will be scouted in this society. For many years the disposition to this practice has been growing, and it has attained to such a height that we are even at this moment unable to determine the results of most of the great operations of surgery, so as to guide us in the advice we should give to our patients. Ten or twelve years ago I tried to ascertain what was the mortality after amputation; I embodied my researches in a paper which was read before this society. It was referred in the usual course, and one of the referees was so satisfied that my results were wrong that he advised the council not to publish it. This advice was followed, and the paper was not published. The years that have passed have served to show that the mortality is not as I said, twenty-three per cent., but nearer twenty-seven. If a faithful record of results had been kept, the referee, in that case, could not have fallen into such an error. No man is bound to publish his experience; but if he publish his successful experience, he is then morally bound to publish that which is not successful. He cannot honestly garble it, if the truth must be told; and the truth means the whole truth. What attached such an odium to M. Civiale's name some years ago, but that he was supposed to have told the truth in such a way as to represent an untruth? He had a large number of stone cases consigned to him for treatment by lithotrity. He stated that he had operated on two hundred and forty-four cases, and that two hundred and thirty-six were cured. The whole truth was that he had had recourse to sounding, and other manipulations, in ninety-seven other cases, but he did not choose to complete the operation. Correctly stated, he should have said three hundred and forty-one cases, two hundred and thirty-six cures. His reverses, then, should have been stated as one out of three, instead of one out of thirty. In what particular does the revelation of to-night differ from that? We are told of twelve operations, and eight successes; but nothing was voluntarily said of forty or fifty cases, in which the operation was commenced, and could not be proceeded with. For myself, I feel utterly unable to advise a patient to submit to the operation for the extirpation of an ovarian cyst. If I turn to one side, I am assured that the operation is little short of murder; if I turn to the other side, I am told it is comparatively harmless. Is it honest that medical men, having claims to respectability, should have left us in that plight, when they possessed the means for guiding our judgment? Many of the operations of surgery are performed in our hospitals, in the face of day, and the results may be registered. The operation of to-night has not often been performed in hospitals; it has been done in private houses, to which the public have no access. Is it not, then, doubly incumbent on those who have the means to remove the veil which may conceal the results of those cases? Judged, then, by the information laid before us to-night, we find that the abdomen has been laid open many times, when there was no tumour in it; that the operation has been performed, in this country, seventy-one times; and that forty-seven have recovered; and from Dr. F. Bird's statement, it is made evident that so utterly valueless is the diagnosis that he has commenced the operation—that is to say, that he has made an incision into the abdomen "forty to fifty times" without being able to proceed with the operation. In given cases, in which the cyst was single, there was no adhesion, and the patient was healthy; the operation might, perhaps, be successfully performed, or at least it was the most likely of all cases to be successful; but it had been proved to-night that we had no means of determining the real condition of an ovarian tumour, and not even whether it were adherent or not, without the performance of an exploratory operation.

Mr. CÆSAR HAWKINS, on rising, said, I feel that I ought to apologize for rising again, after I have already spoken twice; but I am tempted to do so from what

Mr. Phillips has just said. He has spoken of cases of a single cyst in a healthy young woman, as being especially the case proper for this operation. Now, sir, I have quite made up my mind, of late, that these are especially the cases in which it ought not to be performed. I quite agree with my friend Mr. Phillips that such cases are the most likely to be successful, but I believe that ovariotomy is so dangerous an operation that we are not justified in resorting to it, and encountering so much risk, unless an urgent danger is to be avoided. I have heard some persons of great eminence speak of ovarian tumours generally as a disease that often lasts for twenty or thirty years with generally little hazard to life; I cannot myself subscribe to such an opinion, but believe, on the contrary, that it is commonly fatal in not many years, and, consequently, that in such cases the trial to remove the whole disease by operation, however dangerous, has been justifiable. I cannot but think, however, that the profession have not commonly made sufficient distinction between cases of simple serous cyst in the broad ligament of the uterus, and the cysts formed in the ovaria themselves by growth of the Graafian vesicles. In the latter only, as I think, is it that there is such a constant tendency to form the thick, tenacious mucus, which is, I presume, in reality, purulent secretion, converted into mucus by alkali, constituting a great abscess. In this only is there much risk of secondary cysts forming a multilocular tumour, and an almost invariable tendency to increased rapidity of the filling of the sac, all of which lead to a fatal result in a given number of years, and are sufficient to justify a dangerous operation, which is not proper in cases of the sacs of nearly pure water developed in the other situation. To show the great variableness with which the fluid may be secreted in cases of the serous cyst of the broad ligament, I will venture to describe the several periods of tapping necessary in a case which I believe to be of this description, the patient, however, being still alive. A young woman, when seventeen years old, began to enlarge, in the year 1834; in August, 1837, three years afterwards, I tapped her, and removed ten pints of simple watery fluid; in February, 1838, nine pints of the same transparent liquid were drawn off, being six months after the first operation; in May, 1841, eight pints were removed, being three years and three months since the last time; in May, 1842, only one year afterwards, six pints; in October, 1844, eight pints, being no less than two years and five months between the two operations. In Feb. 1846, ten pints were removed, at an interval of only one year and four months, scarcely more than half the former period. In Feb. 1849, she married, and was confined in Nov. following, after which she was near dying from a return of the dropsy, which had not been noticed till after her confinement, and may have been excited by the pregnancy; in Feb. 1850, however, she again had ten pints of the same clear fluid removed, being no less than four years from the last tapping, after which she again recovered her health. I am inclined to think, from other cases of serous cysts, that there is a greater chance of prolongation of life than in the more common tumours, whether single cysts or multilocular, which are situated in the ovarium itself, and hence I should not now think myself warranted in removing those cysts in the broad ligament, as I have hitherto done with regard to the more rapidly fatal tumours of the other description.

Dr. Tilt considered that the society was much indebted to Dr. Lee for the table before them, and which must be interesting to all. It was most desirable that all the evidence respecting ovariotomy that could be procured should be brought forward, in order that we might be able to form a definite opinion on this really most important operation. In his (Dr. Tilt's) opinion, Dr. Lee had started on the right principle in this inquiry, and had refused most properly to club all kinds of cases together. He had followed out the individual history of each case, and had classified them accordingly. This was the only way in which the cases could be made valuable in determining the risk of the operation. For instance, some of the cases of ovarian disease were of a very chronic character, whilst, in others, the disease was so acute as to resemble peritonitis in a mild form. Now, it would be obvious, that to class these two forms of cases together might lead us to a most erroneous conclusion. In the chronic form of the disease, attacking patients late in life, it was, he believed, unjustifiable to operate; but in some cases, where the disease was more acute, and it

occurred between the ages of eighteen and thirty, it might be justifiable. Dr. Atlee, of Philadelphia, had operated in thirty-six of such cases; of these, twelve died, and twenty-four recovered. Looking at the mortality in those cases where no operation was performed, and to the fact that life was very rarely prolonged beyond two or three years, it would at once be seen how important it was to arrive at right conclusions respecting the operation. The question, then, immediately suggested itself as to which were the cases most favourable for operation. Upon this point we must remain in doubt, so long as fatal cases, and their histories, were withheld from publication.

Mr. B. Phillips requested permission to offer a few words in explanation, after the remarks which had fallen from Mr. Cæsar Hawkins. He (Mr. Phillips) did not wish to be understood, in his remarks, to mean the ordinary serous cyst, and its ordinary termination; but he would state that he had seen ovarian tumours removed on eleven occasions. In six of these cases the cysts contained serous fluid; and of the six patients he had every reason to believe that four got quite well. It was this fact which had induced him to say that he regarded the simple serous cyst as the most likely case in which an operation would prove successful.

Mr. I. B. Brown, speaking from considerable experience of ovarian disease, would repeat some conclusions at which he had arrived respecting its treatment. These conclusions he had read before another society, on a preceding night.

(Mr. Brown's conclusions will be found under the head of Medical Society of London.)

Mr. Lawrence rose and said—Mr. President, I did not attend the meeting of the society to give information, for I have no experience of ovariotomy; I have not performed it, and unless my view of the matter should be essentially altered, I never shall; nor have I seen it performed. I came, sir, to listen and to learn, and my expectations of information have not been disappointed. I have heard things strange and new, at the same time instructive. From the interesting document presented to the society by Dr. Lee, for which he deserves the best thanks of the profession, the public, and more especially of females labouring under abdominal enlargements, it appears that in thirty-seven out of one hundred and eight authenticated cases of operation collected by him, it was found, when the abdomen had been exposed, either that there was no diseased ovarium, or one so circumstanced as not to admit of removal. We cannot help believing that this announcement, however unexpected and startling, represents ovariotomy in too favourable a light. Dr. Lee's list is imperfect, confessedly so; it contains only the cases of which he has received authentic accounts. There is no reason for supposing that any successful operations have been omitted. We have generally, perhaps invariably, heard of them as soon as the cicatrization of the wound had been completed. The same alacrity has not been observed in the communication of unsuccessful cases; and I am not aware that any one of the thirty-seven cases just alluded to has been published by the operator. We can hardly doubt, therefore, that if a correct list were drawn out of all the operations, the proportion of cases in which ovariotomy had been fatal would be increased, and that a considerable addition would be made to the thirty-seven instances, in which the perilous proceeding of exposing the cavity of the abdomen had been resorted to unnecessarily. Dr. Lee's list, however, as it now stands, is quite sufficient to make us doubt the propriety of admitting ovariotomy into the catalogue of recognized and approved surgical operations. We are still in the dark on one point, which ought to be ascertained before we can determine the true value of the proceeding; that is, its influence in prolonging life. Our excellent colleague may probably have acquired information on this point, in prosecuting the researches, of which he has now laid the result before the society, and he could probably render them still more complete by learning the subsequent history of the cases, in which the operation had been successful, by ascertaining the kind of health enjoyed, and the duration of life after recovery. The chances offered by the operation would be expressed by the average duration of life in those who have undergone it, if that can be ascertained, reduced in amount by a deduction, and that not inconsiderable, on account of those in whom the operation ends fatally, whether completed by removal

of the ovary or not. The result thus obtained must be compared with the probable duration of life in those patients who receive such relief as can be afforded by the other resources of art. Many years ago I saw a female from the north of England who had undergone ovariotomy, as it was reported, successfully, not very long before the time of my seeing her, the operator being Mr. Lizars. It was performed when what was then called the major incision was in vogue —that is, a cut through the parietes from the ensiform cartilage to the pubes, such as we make to expose the abdomen for examination after death. There was a sound cicatrix on the person of this female, indicating that an incision of that description had been made. The pelvic region was occupied by a large solid mass of disease. The comparison I have now suggested must be made between two sets of cases similar in their nature. Ovariotomy is not performed indiscriminately, but in selected instances. The cases chosen for operation are exactly those in which it is the least necessary, the danger to life being remote, and the patients sometimes living for years with only an occasional interruption of health and comfort. Mr. Hawkins has pointed out the important distinction between the simple serous cysts developed in the broad ligament, with their contents of watery consistence, and the more serious disease of the ovary itself, with its multiplied cysts, and their thick, variously coloured secretions. Two instances of the former kind were under my observation for many years, and I believe that both individuals are still living, although it is long since I have seen them. Elizabeth L—, a rather tall and well-made woman, who had always enjoyed good health, found a swelling in the lower part of the abdomen soon after the birth of her last child, in 1819. It gradually increased for about three years, hardly troubling her except by its bulk, which, however, had become so considerable in 1823 that relief was absolutely necessary, and I drew off in St. Bartholomew's Hospital a pailful and a half of fluid, of watery consistence, and slight whitish opacity. She soon recovered her health and strength, feeling as capable of exertion as at any period of her life, and for nearly two years she thought herself perfectly recovered. She increased in size at the end of this time, and was tapped again with the same complete relief as before. From this time to 1829 she was tapped three times, and did not swell again after the last date. I saw her in October, 1831, in perfect health, and without any abdominal enlargement. She had sometimes experienced an uneasy sense of fulness, which was relieved by purgatives. In the preceding winter she had suffered three or four attacks of spasmodic breathing. Since their cessation she had been quite well, and equal to all the exertions which her situation in life required. She had drunk nothing but water. I saw her again in June, 1842. She had lived for the preceding two years at Charlton, in Kent, enjoying excellent health, and free from every trace of her former disease. I tapped a lady for ovarian dropsy, and let out a few pints of clear fluid. She regained her former size, and considered herself quite free from disease. In four or five years she increased in bulk, and the operation was repeated, a smaller quantity of similar fluid being drawn off. I saw her again in 1842, sixteen or seventeen years after the first operation. She had enjoyed uninterrupted health since the last tapping, and nothing abnormal could be detected in the abdomen on the most careful examination. A statement more remarkable even than those in Dr. Lee's communication has come out in the course of this evening's discussion, having been accidentally elicited, rather than mentioned intentionally. A gentleman, who spoke from the middle of the room, has informed us that he had performed ovariotomy twelve times, and had intended to communicate the particulars to Dr. Lee. This list of operations, however, is of little importance, in comparison with the other matter, mentioned subsequently—viz., that in between forty and fifty cases, as I understood him, he had made an opening into the abdomen, in order to ascertain, in cases of supposed ovarian disease, whether the state of things was fit for operation; and having found that it was not, he closed the opening again. He added that not one of these persons had suffered from the proceeding. If we had not heard this report from the operator himself, we might have been excused for feeling some hesitation in giving it credit. To determine whether a diseased ovary, or other abdominal tumour, admits of excision, it must be necessary to examine the situation and connections of the part

with the hand, which would require a somewhat large cut through the abdominal parietes. To find that this could be done with impunity in between forty and fifty instances is what we should have little expected. As similar good luck could hardly be expected to attend other patients, I would caution the younger part of the company against imitating the boldness of this operator. The naked statement heard to-night does not enable us to appreciate the affair satisfactorily: we must wait for that promised publication of full details which is necessary to substantiate so novel a report. In the meantime, the simple statement, coupled with the thirty-seven cases of Dr. Lee, affords evidence of difficulties in diagnosis that must be perplexing to the ovariotomist. A gentleman on the left has brought before us another proposal; that of making an incision in the abdominal parietes, and then cutting into the ovarian cyst, for the purpose of establishing a communication with the exterior, to serve as an excretory duct, or, as I think he called it, an oviduct. He is probably unaware that diseased ovaries have been dealt with long ago in various ways more or less similar to this. The result has been, I believe, invariably fatal. Ovariotomy, with all its dangers, has the merit of completely removing the disease. This plan, more dangerous than ovariotomy, would leave the disease behind, lighting up inflammation in the great mass covered by peritonæum, and in immediate contact with the abdominal viscera. Many years ago, I saw attempts of this kind in more than one or two instances: they were all fatal. The discussion of this evening, excited by the important communication of Dr. Lee, will at least serve the useful purpose of admonishing us to pause in the attempts at treating diseased ovaries by surgical operation; and, after seriously considering the matters brought to light by that communication. the forty or fifty cases from another quarter, and the proposed oviduct scheme, to ask ourselves the question whether such proceedings can be encouraged and continued without danger to the character of the profession.—*Lancet*, Nov. 23, 1850.

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30. *Operations for Ovarian Disease.* By Frederic Bird.

a. *Cases in which the Tumours were removed.*

Mrs. G.—Large non-adherent tumour. Present at operation, Dr. H. Roe, Mr. B. Phillips, and others. Complete recovery.

Miss H.—Large non-adherent tumour, sessile. Present, Dr. Cape, Mr. B. Phillips, and others. Complete recovery.

Mrs. W.—Large colloid tumour, generally adherent. Present, Dr. Locock, Dr. Hodgkin, and others. Complete recovery.

Miss M.—Large simple sac. Present, Dr. Ferguson, Mr. Clarke, Mr. B. Phillips, and others. Complete recovery.

——. Tumour adherent to pelvis and uterus, rendering necessary to leave a segment of the cyst attached. Recovery. Present, Dr. H. Roe, Mr, Parrott, and others.

H. T.—Tumour adherent to pelvis, of great thickness. Complete recovery. Present, Dr. Elliott, Dr. Ansell, and my colleagues at the Metropolitan Free Hospital. This was the first successful case occurring in hospital practice.

Miss D.—Large sessile tumour, adhesions. Died on third day. Present, Dr. Murphy, Mr. Streeter, and others.

Mrs. L.—Tumour bound down in pelvis, causing unceasing suffering; tapping required every ten or twelve days. Died on third day. Present, Dr. Rigby, Mr. Bryant, and others.

Mrs. H.—Two large compound tumours, involving both ovaria. Complete recovery. Present, Mr. Blagden, Mr. Cholmondeley, and others.

Mrs. G.—Small tumour, non-adherent. Died on fifth day. Present, Dr. Rigby, Mr. Chance, and others.

——. Large compound tumour. Died at the end of the week. Present, Dr. H. Roe, Mr. Holt, and others.

Miss K.—Large and slightly adherent tumour. Present, Dr. Protheroe Smith, Mr. Streeter, and others. Complete recovery.

——. Large tumour, with very short pedicle. Present, Dr. Rigby, Mr. Skey, and others. Complete recovery.

b. *Cases in which the Tumour could not be removed.*

Mrs. P.—Very large malignant mass, inseparably adherent posteriorly. Extreme suffering from distension by solid matter, and rapidly approaching death, rendered the attempted operation justifiable. Died on the following day. Present, Dr. Rigby and others.

c. *Cases in which small incisions have been made, either to determine the existence of adhesions, or to remove unusually viscid secretions.*

Mrs. P.—Small incision, then tapped. Present, Dr. Ansell, Mr. May, and others. Is now living,

——. Small incision, then tapped. Present, Dr. H. Roe, Dr. Wilks, and others. Is now living.

Miss ——. Incision of rather larger size. Present, Mr. Coulson, and others. Lived two years.

Mrs. C.—Small incision, to ascertain character of adhesions, and of small tumour attached to the cyst, as well as to evacuate contents. Present, Mr. Huxtable and others. This patient was advanced in life, and exhausted by suffering. Lived six weeks.

Miss G.—Incision. Present, Mr. Streeter, in whose practice it occurred. Lived more than two years.

Mrs. B.—Incision, then tapped. Present, Dr. H. Roe, and others. Lived nearly three years.

Miss B.—Incision, then tapped. Present, Dr. Murphy, Dr. Snow, and others. Lived six months.

Miss B.—Incision, then tapped. Present, Dr. Rigby, Mr. B. Holt, and others. Is now living.

A. B.—Incision, then tapped. Tapped several times afterwards. Present, Mr. Chance, and others.

——. Incision, then tapped. Tapped afterwards. Present, Dr. Rigby, Mr. Holt, and others.

Mrs. S.—Incision, then tapped. Tapped many times afterwards. Present, Mr. Holt.

Mrs. C.—Incision, not tapped. Afterwards tapped, and died. Present, Mr. Streeter.

Miss G.—Incision, to ascertain adhesions, and to remove very viscid contents. Present, Mr. Smith, Mr. Holt, and others. Died next day from bursting of a large hepatic abscess into peritonæal cavity, as proved by autopsy.

Mrs. C.—Small incision, then tapped. Subsequently tapped, and was living more than a year afterwards.

S. R.—Incision; colloid. Present, Mr. West and pupils. Was living after the lapse of ten months.

Mrs. W.—Small incision, then tapped. Present, Mr. Huxtable. Tapped many times afterwards.

L.—Incision, then tapped. Present, Dr. H. Roe, and others. Was living a year afterwards.

Miss S.—Incision, then tapped. Present, Mr. Mosgrove and others. Now living.

Conclusion.—I have thus extirpated large ovarian tumours in thirteen cases, of which number nine were successful, four unsuccessful; in one case the tumour could not be extirpated, and the patient sank. In eighteen other cases, I have made small incisions, as a means of diagnosis or relief, and in no case did a bad result ensue from such incisions, leaving a total of thirty-two cases, in the treatment or investigation of which the abdominal cavity has been incised. —*Ibid.*

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31. *On the Treatment of Sprains of the Ankle.*—M. Baudens observes that, judging by the frequency of the occurrence of this accident, its treatment ought to be well understood and successfully practiced; but that this is in fact far from being the case, and he is therefore desirous of making his own plan of treating it, by the cold-bath and gum bandage, more extensively known.

The indications are, first, to prevent or remove inflammation, and then to secure immovability to the distended or lacerated parts, until they have recovered their power, the patient being at the same time allowed the use of the limb. For the purpose of subduing inflammation, numbers of leeches are usually applied, and then an emollient cataplasm; and M. Baudens feels convinced that it is in consequence of such treatment that degenerated sprains so often augment the number of amputations in hospitals. By free leeching of a joint, the seat of sprain, two mischievous effects are produced. In the first place, the pain, which is the first of the series of symptoms of inflammation after sprain, is increased by the leech-bites, in place of being mitigated; and, in the next, the increased afflux of blood towards the part is encouraged instead of being repelled. M. Baudens, on these grounds, strictly forbids the application of leeches in all surgical maladies attended with acute inflammation, while he often derives most excellent aid from their employment in chronic inflammations; thus, by the induction of a temporary congestion, giving a fillip to the too languid action of the part. When blood need be taken in sprain, he abstracts it by venesection, although probably both the profession and the public, from the force of habit, would tax with ignorance any one who neglected the use of leeches. As to emollient cataplasms, they favour in place of opposing the afflux of fluids to the part, while the long maceration the joint has been thus submitted to deprives it of its elasticity, gives rise to a pasty *engorgement*, and predisposes to the formation of white swelling.

M. Baudens has pursued his own plan of treatment now for twenty years, and under it his patients have been enabled to resume their trying military duties in a very short time. He is not the first who has employed cold water in the treatment of sprain; but his originality consists in trusting to it alone, and continuing its application for so long a period. His plan of employing it, contrasted with that of his predecessors, may be thus summed up:—1. *Period of the application.* Cold has usually been thought desirable only when it could be resorted to very shortly after the accident; but he applies it not only immediately, but also several hours or days after the occurrence, or even in chronic sprain—whenever, in fact, there is a *morbid degree of heat to abstract.* 2. The local bath has never been ordered by others for longer than five or six hours, although some practitioners, since his first publication on the subject, have ventured to extend it to twenty-four. In certain of his cases, however, immersion has been continued for eight or ten days, and, in one example, for fourteen days; while in no case has it been less than for two. 3. *Mode of application.* The vessel containing the water is brought to the bedside of the patient, so that he can conveniently place his leg in it, having the heel resting on a sponge at the bottom, the leg and thigh being supported by cushions, so that the position may be maintained for as many days as required. In the vessels used at the Val-de-Grace, the water reaches as high as the middle of the leg, and is changed about every three hours in order to keep it sufficiently cool. Spring-water is usually employed, and if the inflammation is intense, ice is added. A purgative is given, and, if indicated, one or two bleedings are resorted to. 4. *Effects.*—One of the first of these is the cessation of pain, which sometimes occurs at once, and at others in an hour or two. From the moment the foot is placed in the bath, the swelling becomes stationary, and soon after, with the heat and redness, decreases. About the fourth or fifth day the part becomes wrinkled like the hands of a washerwoman; and usually about the third or fourth day the patient finds the water too cold, and then the limb is removed from it—the period for doing this being regulated by the patient, he being told to keep it in only as long as he derives comfort from so doing. Few of the patients suffer from any general reaction. *Gangrene* has been said to have resulted from this application, but the author has never met with such a case. The patient sometimes persists in keeping the limb in water after the dispersion of the heat and pain, and the consequence is the production of engorgement of the joint, a tense state and dark colour of the skin, together sometimes with darkish lines—precursory signs of congelation in fact—on seeing which the joint should be enveloped in a fomentation of elder-flowers and poppy-heads at the temperature of the atmosphere. The objections which have been urged, from the fear of producing

repercussion, are quite theoretical and unfounded. It is, in fact, only the *excess* of *morbid caloric* that is abstracted.

Gum-bandage.—When the inflammation has been subdued, all the depressions, in the vicinity of the joint are filled with wadding, and a bandage carefully and equably applied. This is well moistened by means of a brush with very thick gum, which in a short time imparts to it almost the hardness of wood. After this has been worn for twenty-five or thirty days, it is removed, and the joint slowly and gradually exercised; for want of which precaution many patients (especially those treated by leeches and poultices) suffer all the symptoms of a sub-inflammation of the white tissues of the joints, even for years.—*Brit. and For. Med.-Chirurg. Rev.*, Oct. 1850, from *Gazette des Hôpitaux*, 1850, No. 506.

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32. *Dislocation of the Scaphoid Bone of the Foot.*—Dr. WALKER records in the *Provincial Med. and Surg. Journ.*, Oct. 16th, 1850, the following example of this very rare accident.

"On the 10th of June 1850, a stone mason, aged 40, and of a spare but sinewy form, in stepping from the top of a wall, eighteen feet high, to another about a foot lower, over an intervening space of about two feet, advanced his right foot, but stepped short, his toes only resting upon the wall, his whole weight being, in the act of stepping, thrown upon the right leg. The foot, as he says, "bent upwards, and something gave way." Falling down between the two walls, he found himself on the ground on his hands and knees, not hurt, as he conceived, by the fall, but quite unable to work, and his foot in great pain. He was carried home, and I saw him next day. He was in bed, and on examination my opinion of the case entirely coincided with that of Mr. Hanbury, our excellent house-surgeon, who had previously visited him. We found a bold projection on the dorsum pedis, in the situation of the os naviculare, and a corresponding depression beneath, where, in the normal condition, the tuberosity of this bone forms a distinct projection. Over the displaced bone the skin was tense and red, and over this point there was a good deal of pain on pressure. He could bend and extend the ankle-joint without difficulty or much increase of pain. I at first tried to reduce the bone by firm pressure with the thumbs, but it felt firmly fixed in its abnormal position, and I could not move it.

"I then requested Mr. Hanbury to press the foot downwards, whilst I attempted to return the bone to its position between the astragalus and cuneiform bones, and with an audible snap it returned, and the deformity disappeared.

"I then merely directed the foot to be kept quiet and fomented; but two days after, finding that the bone felt loose and easily movable, with a tendency to slip upwards, occasioning the peculiar appearance of a slight dimple or hollow in place of its natural projection, a plaster and roller were applied.

"He was confined to the house for three weeks. He then returned to his work, but continued slightly lame for about a month after. This morning (Sept 16th) I find, on examination, no remaining appearance of injury; he has no pain, and the motions of the foot are perfect."

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33. *Ununited Fracture of the Tibia of twenty-four years' standing successfully treated.* By R. W. TAMPLIN.—Patient a young woman, aged 25; leg broke at lower-third in infancy. The fracture neglected for some years, and then a variety of treatment adopted to promote union, without success. The case was given up as hopeless, and amputation recommended by surgeons of eminence. When Mr. Tamplin saw the patient, the leg was two inches and a half shorter than the other, the upper portion of the tibia projecting pointedly forwards, and riding over the lower third; there was free movement at the point of fracture. Mr. Tamplin had an instrument so made that the thigh could be firmly grasped above the condyles of the femur, the foot below having a screw, by means of which the distance between the knee and the foot could be gradually increased. This was applied on the 31st of July, 1849, the leg kept horizontal in the extended position. Gradual extension was now commenced, and continued for four days. So much pain was occasioned in the gastrocnemius that it was found necessary to divide the tendo-Achillis. From this time the leg became gradually and easily elongated, and during the extension a steady continued

pressure was kept up on the tibia, above the point of fracture, and counter-pressure at the back of the leg, just above the ankle-joint. This treatment was persevered in unremittingly until the 9th of January, 1850, without interruption to the health, when the leg was found to be of equal length with its fellow, and the bone retained its position unassisted. Common splints, with a boot attached, were used to support the limb. On the 26th of February she could raise the leg to the horizontal position. On the 3d of April she could stand and walk without pain or sign of motion at the point of fracture. Since that time had continued to use the leg freely; could walk up and down stairs; her general health had improved, and there was every reason to believe that a perfect cure had been effected.—*London Med. Gaz.*

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34. *On Primary and Secondary Amputation.*—Dr. Restelli, one of the surgeons in chief of the Sardinian army, in relating the surgical history of the late campaign, confirms the opinion now generally entertained by military surgeons of the preferability of primary amputations by the following statistical statement, which, although on a small scale, is very conclusive. He says that whenever an operation becomes recognized as one of undoubted necessity, he believes it the best practice to perform it at once (that is, within thirty-six hours after the injury) in place of waiting the development of fever, inflammation, and suppuration, with the consequent greater liability to phlebitis, purulent infection, tetanus, visceral inflammations, &c., dangers with which the simple wound from amputation is scarcely to be compared. Acting upon these principles, he obtained the following results:—

IMMEDIATE AMPUTATIONS.				CONSECUTIVE AMPUTATIONS.			
		Recovered.	Died.			Recovered.	Died.
1	At the hip-joint .	1	0	6	Middle of the thigh .	1	5
7	Middle of the thigh .	5	2	1	At the upper third .	0	1
4	Upper third of thigh	2	2	1	Upper third of leg .	0	1
3	Upper third of leg .	2	1	7	Upper third of arm .	2	5
10	Upper third of arm .	9	1	2	Shoulder-joint . .	1	1
1	Shoulder-joint .	1	0	3	Forearm . .	2	1
26		20	6	20		6	14

Thus in the immediate amputations there was a mortality of about 24 per cent. and in the consecutive ones of 70 per cent.; the fatality of these last especially referring to the lower extremities.—*Brit. and For. Med.-Chir. Rev.*, Oct. 1850, from *Annali Omedei*, vol. cxxx.

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35. *Surgical Operations, in reference to the Employment of Chloroform.*—M. Boyer considers that surgical operations, in their relation to chloroform, may be thus arranged:—

1. Those in which it is a powerful auxiliary, facilitating their execution, as in the reduction of dislocations and strangulated hernia. 2. Those which are exceedingly painful, in which chloroform diminishes suffering, but does not render the operation more easily executable. They are very numerous, and this is the only point of view in which the public regards the advantage of anæsthetic agents. 3. Those in which it may become an obstruction or preventive to their execution. Thus, a patient of M. Boyer, on whom he was operating for lithotrity, became so restless under chloroform that he could not continue until the anæsthetic influence was withdrawn. 4. Those in which it may prove dangerous, as in cataract. So, too, in tedious and delicate operations performed in the vicinity of important organs; as, for example, ligature of the carotid, during which any indocility of the patient might lead to the wounding of important veins, and in some of the cutting operations in the mouth. 5. Those of a trivial character, in which chloroform is a superfluity, as the slight advantage obtained from its use does not generally compensate for the disagreeable effects produced by the inhalation, such as the smell, headache, and the kind of intoxication that results. 6. There are certain contra-indications to its use in all cases, as acute or chronic affections of the brain, liability to cerebral congestion, great debility, &c. Its employment must, therefore, not

be regarded as a mere matter of course; and surgeons, in order to prevent abuse, may often have to discountenance it.—*Brit. and For. Med.-Chir. Rev.*, Oct. 1850, from *Gazette des Hôpitaux*, No. 51.

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36. *Origin of the Epigastric and Obturator Arteries by a common trunk from the Internal Iliac; with an inquiry into the amount of danger occasioned by various positions of arteries in the ordinary operations for Femoral and Inguinal Hernia.* By P. Redfern, M.D. (*Monthly Journ. Med. Sci.*, Sept. 1850.)—In this interesting paper, the author, after describing a case met with by him, in which the epigastric and obturator arteries arose by a common trunk from the internal iliac, and referring to two similar cases, one recorded by Hesselbach, and the other by Dr. Monro, discusses the surgical relations of these deviations.

He reviews, 1st, those varieties of position in which a vessel of considerable size appears likely to be exposed to danger in the performance of ordinary operations, and the frequency of like positions; 2d, in what proportion of such operations vessels of importance have been injured in actual practice, and 3d, the probable result of future cases of injury to these vessels, by a reference to the termination of those which have already been made public.

The conclusions which Dr. Redfern draws from his investigations are :—

1st. In every possible variety of inguinal rupture, the stricture ought to be divided directly upwards, as by so doing there is not the slightest risk of hemorrhage.

2d. The probability of the occurrence of hemorrhage is much greater in operations for femoral than for inguinal hernia, as the epigastric, obturator, or internal circumflex artery may be divided in exposing the sac; and the obturator, epigastric, or a large anastomosing branch, may be injured in the division of the stricture.

3d. The varieties in the arteries named are sufficiently frequent to render them of great surgical importance, and that variety is most important in which the vessel is displaced inwards, by the descent of a femoral hernia, and becomes tensely stretched over the front and inner side of the neck of the sac.

4th. The risk of hemorrhage is not lessened by dividing the stricture of a femoral hernia in any other direction than inwards or upwards and inwards, but it is very much diminished by dividing as few of the tense fibres of the edge of the ring as possible, by avoiding a sawing motion, and by pressing the edge of the knife rather upon the anterior surface than directly on the edge of the fibres constituting the stricture.

5th. In a male, whose testis has passed into the scrotum, the spermatic artery may be wounded, and the testicle lost, by dividing the stricture at the neck of the sac of a femoral hernia upwards, and, therefore, this method of operating ought to be relinquished.

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37. *Aneurism of the Femoral Artery, Ligature of the External Iliac.*—Henry Smith, Esq., records in the *Medical Times* a case of aneurism of the femoral artery in a man 37 years of age, in good health and temperate habits. On the 7th of August, Mr. S. applied a ligature to the external iliac, and the patient made a rapid recovery. The ligature was readily withdrawn on the twentieth day, and in five weeks after the operation the wound had healed with a firm and healthy cicatrix.

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38. *Ligature of the Femoral Artery for Popliteal Aneurism.*—James Drummond, Surgeon, Dundee, records (*Monthly Journ. Med. Sci.*, Nov. 1850) a case of popliteal aneurism, on right side, in a seaman, 33 years of age, in which he successfully applied a ligature. The incision, except immediately around the ligature, had united in forty-eight hours; the temperature of the limb, which for the first two days was slightly lower than its fellow, was restored on the third day, and the ligature separated on the thirty-first day.

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39. *On the Employment of Forced Flexion for arresting Hemorrhage in Wounds of the Palmar Arch.* By M. E. Durwell.—A woman fell from a ladder, having a

bottle in her hand. The bottle was broken, and fragments pierced the palm. M. Durwell, on arriving at the poor woman's cottage, found the palmar arch wounded; and he had no means of securing the artery. While controlling the hemorrhage by pressure on the brachial artery, the following sentence in M. Malgaigne's *Anatomie Chirurgicale* occurred to his mind: "The only points at which obliteration of an artery can be obtained by position alone, without the aid of external compression, are at the bend of the arm and knee—a fact which is of great importance in reference to the arrest of hemorrhage." Acting upon this statement, M. Durwell immediately bent the arm on the forearm at an acute angle; the hemorrhage was instantly arrested. Advantage was taken of the circumstance to effect a definite cure. The arm was retained in its flexed position by bandages, so that the pulsation of the radial artery was completely intercepted. The wound of the hand was treated as an ordinary wound, and, for the sake of precaution, compresses were laid over the course of the arteries of the forearm. The cure progressed favorably. On the third day, as the patient complained of the restraint of the posture, the arm was slightly extended, and it was noticed that a small portion of florid thin blood oozed from the wound. The arm was restored to its flexed position, and in a short time the vessels and the external wound had perfectly healed.

In this manner a wound, usually regarded as of a very serious character, was safely and speedily cured by a proceeding as simple and unobjectionable as has ever been proposed. It must be attended with success when employed in analogous cases, and, from its simplicity, should be tried in the first instance in every case. M. Durwell observes justly that it would be rash to make a more general application of a single fact, as there may doubtless occur complications, rendering its employment impossible or unadvisable; but, at the same time, he adds that this principle may be found, by further experiment, to be useful on other occasions, for the obliteration of the popliteal and humeral arteries. This principle he lays down in the proposition—"that in most arterial lesions of the forearm and leg, prolonged forcible flexion supersedes the ligature of the vessels."—*Prov. Med. and Surg. Journ.*, Nov. 13th, from *L'Union Médicale.*

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40. *On Hospital Gangrene.* By Prof. Restelli.—Between Sept. 1848 and Feb. 1849, hospital gangrene prevailed in the overcrowded Military Hospital of Alessandria to a terrible extent as a complication of wounds, and especially of gunshot wounds; so that above 400 cases came under Dr. Restelli's care.

Owing to the crowded state of the hospital, no classification of patients could be observed; but this gave the author the opportunity of observing that individuals suffering from contagious diseases (as syphilis) were more easily attacked by the gangrene, and that it rapidly produced in them dreadful ravages. No general symptoms usually preceded the alteration of character in the wound; and in some cases the disease continued local in its manifestations, but in several others, remittent fever was present, increasing with the progress of the disease. In some cases, there were daily paroxysms of fever and profuse sweating, simulating an intermittent fever, with which various nervous symptoms, especially those of a convulsive character were conjoined, and were of very bad omen.

In order to prove the contagious character of the disease, the author, most unjustifiable, as we think, inoculated various wounds occurring in different temperaments with some of the matter, and also inserted it subcutaneously in healthy parts. Other proofs were found in its being communicated from bed to bed during the overcrowding of the hospital, and on its having been propagated in the town by means of a dirty knife used in an operation. The author, indeed, regards the propagation of the disease as entirely affected by contact, although he allows that the bad state of the air of a crowded hospital increases the virulence of the disease. He does not believe, however, that any contagious principle capable of propagating the disease is absorbed into the system; and thus, when in consequence of the ravages of the disease, operations or amputations were required, the new surface did not take on gangrenous action, providing care were taken to prevent gangrenous matter obtaining access to it. Taking this view of the disease, it is to local treatment he looks

for a curative agent, and this may be had recourse to at any stage, if the part retains sufficient reactive power. After trying experiments with numerous caustic substances, as the strong acids, &c., he has come to the conclusion that the best application is a *solution of caustic potass*, which he considers to act not as a mere caustic, but also by neutralizing the virulence of the poison itself. On the first day, however, he applies pieces of caustic potass in substance to the wound, endeavouring to penetrate into all its sinuosities. Next day the wound is dressed with a solution of ℈j ad ℥j of water, and every day the strength of the solution is diminished by four or five grains, to the fifth day, when the wound is simply dressed. The author declares that even the worst cases went on well after this plan was put into practice. In the subsequent treatment of the wounds, absorbent powders, as charcoal, and especially carbonate of magnesia, were of very great service.—*Brit. and For. Med.-Chirurg. Rev.*, Oct. 1850, from *Annali Omedei*, vol. cxxx.

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41. *On Dry Gangrene.*—Dr. De Martini observes that the seat and cause of progress of spontaneous dry gangrene have not been sought for by pathological anatomists in the primary elements composing the structure of the affected parts, but in some distant points from the centre of the alterations. He is of opinion, however, that all the tissues of a part suffering from it are the seats of a *minute capillary injection, and a total and primary coagulation of the blood.* The most delicate capillaries are injected, they become obstructed with fibrinous coagula, and a portion of the colouring matter is effused around the anastomotic points. The papillary body loses its moistness and rose-white colour, and becomes a collection of black and hard asperities, rising from a dermis that looks as if it were carbonized. Observed through a microscope, these minute vessels seem as if injected by a substance which has hardened within them; and, in fact, so obstructed are they that when divided they do not empty themselves any more than as if they were filled with so much wax. In the adipose layer, muscles, and, indeed, all parts that the gangrene implicates, the same minute capillary injection and coagulation is observable.

In reference to the causes of this complete coagulation in the capillary circulation, the author expresses his opinion that insufficient attention has been paid to *primary lesion of the capillary innervation.* The acute, burning pain preceding the development of the gangrene, the greater disposition of the paralyzed extremity to become attacked, the commencement of the process by a complete arrest and coagulation of the blood in the capillaries (the circulation in which is under the influence of the ramusculi of the sympathetic), and the nervous disorders which frequently precede or accompany the development of the affection, lead to the belief that a primary paralysis of the capillary innervation may frequently play an important part in the induction of this gangrene.

In a *chemical* point of view, the metamorphoses which accompany dry gangrene are quite special. In gangrene, the consequence of inflammation, there is rupture of capillaries and effusion of blood, and thence a more intimate combination of its oxygen with the elements of the tissues. The effused blood coagulates, the globules and darkened hematose dissolve, and the whole organic materials of the fluid pass into a state of decomposition, which is communicated to the surrounding tissues. In dry gangrene, coagulation takes place without prior inflammation, and at the various anastomotic points, effusions forming also coagula are likewise observed. No solution of the blood, no decomposition or disruption of tissues, takes place. The structure of these undergoes little or no alteration. The physical characteristic of *inflammatory gangrene* is the changing of the organic solids into a soft, pultaceous, decomposing mass; while that of *dry gangrene* is the changing of the humours and soft parts into dry solids. The smell of rancid bacon, which the part emits in dry gangrene, and the readiness with which *mycodermes* are developed on the surface, would seem to show that the process is one of slow combustion—*eremacausis*, a process at first excited by the oxygen of the blood, and when that ceases to be obtainable, by that of the air. A foot suffering from dry gangene, which had been amputated, was introduced under a bell containing air, together with some pieces of caustic potassa. In three days the whole of the oxygen had become consumed,

and the potass converted into carbonate. The process of *eremacausis* could not be set up in organic matter without prior enfeeblement of the vital affinities of its elements, which are dependent upon the peripheric innervation.

From what has been said, it is evident that the organic changes produced in dry gangrene are incurable, for the coagulated blood cannot resume its organic liquid state, nor can the chemical metamorphosis, affected by means of oxygen, be arrested. But this chemical process does not limit its operations to the gangrened part, since the facility of absorbing oxygen possessed by a part in a state of *eremacausis* is communicated to all matters in contact with it, so that the entire body might become involved in this slow combustion, originating in a part already dead. The indication, therefore, is not to lose time in employing internal remedies, which are always useless, but to at once remove the limb beyond the gangrened part, and then resort to means of rational treatment. Does not the *vis medicatrix* of Nature, which preserves the whole body by a spontaneous separation of a part, teach us this lesson?—*Brit. and For. Med.-Chir. Rev.*, Oct. 1850, from *Omedei Annali*, vol. cxxvi.

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42. *On Fungous Tumour of the Rectum in Children, attended with Bloody Discharges.* By M. Leclayse.—M. Martin has already directed attention to the affection as it occurs in the adult, producing discharges which are mistaken for those from hemorrhoids. The first case occurred in a child æt. 5, about whom the author was consulted in consequence of hemorrhages which occurred during a prolapsus ani, and which arose from an excrescence that he at first mistook for hemorrhoids. Examining it more closely, he found it was a spongy vegetation, not unlike a portion of the placenta, which protruded from beyond the sphincter when the child went to stool, and was quite insensible to the touch. As the hemorrhage had been considerable, the fungus was touched with the nitrate of silver whenever it protruded; and owing to its softness, four or five applications, at intervals of several hours, sufficed for its destruction. In a second case, a girl æt. 8 had become much reduced by the quantity of blood she had lost during several weeks; and a fungous tumour, about the size of an almond, was easily removed in the same way. A third case occurred in an infant six months old, in whom efforts at stool protruded a tumour the size of a pea, which bled. The author believing it to be the germ of the fungous tumour, also treated it with caustic.

M. Leclayse believes that this affection is often mistaken for hemorrhoids; and especially when the bleedings are said to be due to internal piles. The caustic could not be applied very high up, but as the bleeding has only occurred on the protrusion of the tumour, this has been easily reached, the application being successful even when the base of the tumour could not be attained.—*Brit. and For. Med.-Chir. Rev.*, Oct. 1850, from *Rev. Médico-Chirurg.*, tom. vii.

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43. *Gonorrhœa treated with Acetate of Potash.*—Mr. Hilton has endeavoured to arrest gonorrhœa without the aid of cubebs, copaiba, or other means usually adopted. The medicine he employs is acetate of potash in half-drachm doses. The following cases are selected to exhibit the results of this simple treatment:—

The first case refers to a man, aged thirty, a tailor by trade, who, when admitted, July 24th, into Samaritan ward, had been affected with a discharge for a week; the urine was very acid, and the scalding intense. The day after admission, Mr. Hilton prescribed half-drachm doses of acetate of potash to be taken three times a-day. Five days afterwards, the scalding was relieved, the urine being still acid; on the thirteenth day the scalding, though decreased in intensity, continued, and the urine remained acid; the acetate was therefore ordered to be taken every fourth hour. On the sixteenth day the scalding was trifling, and the urine acid; on the eighteenth the urine became alkaline; the scalding had disappeared, and the discharge had completely ceased for some days. The patients are always kept in the house a little time after its cessation, for fear of a relapse; and on the twenty-third day the patient was quite well, after having taken the acetate of potash three times a-day for thirteen days, and every four hours for five days.

The second case is that of a labourer, twenty-seven years of age; he had

had a gonorrhœal discharge for three weeks when he applied for admission. The treatment began in the same ward (Samaritan), on the 24th of July, as in the preceding case, and the acetate of potash, in an aqueous menstruum, was likewise ordered to be taken three times a-day. The salt is also given with advantage in camphor mixture, and Mr. Hilton often supplies the patients with the acetate in powder, desiring them to dissolve it in water themselves. Here, however, no very material improvement took place for the first fifteen days, when the scalding became less, and the discharge began to diminish in quantity, the urine being acid. Mr. Hilton now ordered the same doses to be taken every fourth hour. On the nineteenth day the scalding continued, the discharge was less, and the urine slightly alkaline. On the twenty-second, the urine became again acid, though the patient was taking the acetate every fourth hour. At this time diarrhœa set in, and the patient was precluded from continuing the acetate of potash. On the twenty-eighth day after admission, however, the use of the salt was resumed; it was taken every four hours for eleven days, when the scalding and discharge were entirely subdued. It should, however, be noticed, that even at this period the urine remained somewhat acid.

Mr. Hilton was led to give the acetate of potash a trial in cases of gonorrhœa from the following considerations: The urethra is in this disease in a highly inflammatory state, and the urine very acid; it is clear that the latter fluid in passing over an inflamed surface must tend to irritate it much, and retard the diminution of the inflammation. The acetate of potash, by its tendency to render the urine alkaline, will therefore remove one of the obstacles which lie in the way of the cure. This same salt has likewise most undoubted depurating properties, and its antiphlogistic powers are very remarkable. Its administration, therefore, will have the double advantage of rendering the urine less acid and irritating, and of reducing inflammatory action all through the system, and as a consequence in the urethral mucous membrane.

Mr. Hilton does not deny the modifying properties of copaiba and cubebs, but he considers that the acetate of potash renders great service in those numerous cases where, from many different circumstances, neither copaiba nor cubebs can be taken. He often uses the latter therapeutical agents when the disease has been subdued by the above-named salt; a few doses of copaiba then complete the cure, and are likely to prevent relapse.—*Lancet*, Nov. 1.

MIDWIFERY.

44. *On the Causes of the Non-success of the Cæsarian Operation.*—Dr. Roubaix, of Brussels, has published (*Encyclographie Médicale*, June,) an elaborate memoir, in which he passes in review various questions connected with this operation. As, for instance, whether the danger of the operation consists in the incisions themselves; whether it is the result of some error in the operative proceedings, or is induced by the circumstances under which the operation is performed; and, lastly, whether, by any modification of operation, greater success can be insured? These are the problems which the author attempts to solve:—

1. *Does the danger of the operation depend on the dangerous consequences of the incisions?* In answering this question, the author divides the tissues incised into three categories—the first comprising the abdominal parietes, the second the peritoneum, the third the womb.

Respecting the first of these he observes that little need be said, as wounds of the integuments of the abdomen do not differ from ordinary wounds; the danger is in the incising the peritoneum and womb.

He further states that, judging by the analogy of other operations in which the peritoneum is interested, we cannot consider the danger to be in the incision of the membrane, as in the case of hernia, and in many severe accidental wounds, the peritoneum is often extensively injured without bad consequences. In the lower animals, the operation of spaying is another instance in point. So also wounds of other serous membranes, as the pleura, are comparatively harmless, as long as the important organs of the chest are uninjured. In the

operation for cataract, again, the serous membrane of the eye is perforated without danger; and the same may be said of hydrocele. On these grounds, the author considers that the danger of wounds of serous membranes has been greatly exaggerated, and he thinks this arises, probably, from the intense pain which inflammation of these tissues gives rise to. He concludes, upon the whole, therefore, that the dangers of the Cæsarean operation are not due to wounding the serous membrane abstractedly considered.

Is it, he next inquires, the incision of the uterine parietes which causes the risk? Here he reminds us that it is a complicated and delicate organ which is wounded, and that it consists of serous membrane, muscular fibre, vessels, nerves, and mucous membrane. But muscular fibres, nerves, and vessels are wounded in amputating without similar risk; and no surgeon hesitates to incise the mucous membrane of the mouth, nose, &c., wherefore he formally decides that division of the uterine tissues likewise is not the essential cause of the mortality of the Cæsarean operation. He next inquires—

2. *Is the danger of this operation due to error in its details, or in the subsequent dressing?* In replying to the second query, the author reviews the several steps of the operation after the following manner:—

Everything being ready, the surgeon first divides the abdominal integuments, and, accordiug, to general practice, when he arrives at the peritoneum, he makes an opening just sufficient to admit the finger, with which he raises the peritoneum while he makes the necessary incision. Now, in so doing, he not only admits air, but also the flow of blood into the peritoneal cavity. The surgeon in the next place opens the uterus, from which floods of blood pass into the abdomen. The amnios is next opened, and its contents are also effused. The infant and secundines are then taken away, the clots of blood removed, the intestines pushed back, and the external wound is closed.

We need only, observes the author, reflect an instant to perceive—1. That air enters the peritoneal cavity, and sometimes into the uterine sinuses. 2. That blood and liquor amnii, and subsequently the lochial discharge. may also escape into the same cavity. These are in the author's estimation the real causes of the fatality of the operation.

The evil consequences of the admission of air into the tissues are daily observed in surgery. A simple fracture is a trifling accident, but a compound fracture of the same bone is a serious affair. To open a large chronic abscess is often to give rise to a train of fatal symptoms; if, however, the admission of air be prevented, no such evils appear. It is the same in empyema and punctures of joints. Again, it is well known that to open ganglions is dangerous, but to rupture them under the skin gives rise to no unpleasant effects. Many other instances might be cited to exhibit the pernicious effects of the contact of air, but the multiplication of evidence would be useless.

The entrance of air into the uterine sinuses during the Cæsarean operation, the author thinks, has been too much overlooked. He observes that the anatomical construction of these sinuses is such as to favor the admission of air, which is one of the most dreaded contingencies of surgery. That the distance from the heart is no preservation, the author shows by referring to instances in which air has entered these sinuses during labour, in sufficient quantities to cause instantaneous death. Although this may not be the effect of the accident in the Cæsarean operation, sufficient air may be admitted to give rise to the most fatal form of phlebitis.

The effusion of blood into the peritoneal sac is regarded by the author as another obstacle to success, for whatever pains may be taken to remove it there will always be sufficient left to excite inflammation and its consequences. The presence of the liquor amnii also, though not so injurious as air or blood, is, nevertheless, to be considered as more or less injurious.

Thus the introduction of air, of blood, and of liquor amnii, are accidents which are in a measure inherent to the Cæsarean operation, and are sufficient, in the author's opinion, to explain a great portion of the ill consequences of this severe operation. He next inquires what amount of mischief may also arise from improper after-management. He alludes to the practice of applying refrigerants and topical astringents to the uterine incision, as well as the prac-

tice of preventing union by first intention, by which an additional cause of irritation is allowed, in the escape of the lochia into the peritoneum.

3. *Are the dangerous results of the Cæsarean operation in anywise attributable to the circumstances under which it is performed.*—This is the third query which the author proposes, and which he at once answers in the affirmative. It is a point of great consequence in all operations, if possible, to make incisions in healthy tissue, but in the Cæsarean operation this is often impossible, from the fact that the operation is too often delayed, and not attempted until the uterus is fatigued by useless efforts, and the soft parts are more or less bruised and injured by imperfect attempts to deliver *per vias naturales*. It is, therefore, he considers, a matter of great consequence as regards the probabilities of success, not to postpone the operation too long. Once that it is decided that delivery in the ordinary way is impossible, no time should be thrown away in fruitless endeavours to deliver.

4. We now come to the last question—*Is it possible to diminish the chances of failure by any modification in the operation?* This question also the author answers confidently in the affirmative, and gives the certain rules for accomplishing the safety of the patient. These are:—

1. To prevent the entrance of air into the peritoneal cavity and the uterine sinuses.
2. To prevent the effusion of blood and liquor amnii.
3. To make the incisions in such a manner that union by first intention may be encouraged as far as possible.
4. To take precautions against inflammation of neighbouring tissues.
5. To perform the operation at a favourable time.

All these rules are exemplified in the following description of the operation:—

Labour should be allowed to progress until the os uteri is well dilated and the membranes present. The rectum having been previously emptied, the patient is then to be placed on a narrow couch, with cushions under the loins, so as to cause the abdomen to project, the thighs are to be shortly flexed, and the bladder emptied by the catheter. Two assistants should be placed, one on the right side, and the other opposite the patient's left thigh. These two assistants are then to maintain a steady pressure on each side of the abdomen.

All being thus arranged, the operator, placed on the right side, proceeds to make an incision in the median line, from the umbilicus to within an inch of the pubes. When he arrives at the peritoneum, he is to open it carefully on a director, previously taking care that the assistants make so close a compression as shall as much as possible prevent the admission of air. The womb is now laid bare, and the next step is to incise it in the median line down to the membranes. If the assistants do their duty, the blood which now pours out should scarcely, if at all, penetrate into the peritoneal sac. Now is the moment to rupture the membranes, and allow the escape of the liquor amnii per vaginam. When it is thoroughly emptied the membranes are to be incised, and the child and after-birth carefully extracted.

When the hemorrhage has ceased, the parts are to be gently sponged, and sutures are to be inserted, the entire length of the incision, in the abdominal parietes, and compresses and bandages are to be so applied as to take off the traction upon the points of suture. The after-treatment should consist in catheterism, two or three times a-day, and careful regulation of diet. Vaginal injections should be avoided, for fear of the fluid gaining access to the peritoneum. If the wound does not heal by first intention, it must be healed on the ordinary principles as a suppurating wound.—*Prov. Med. and Surg. Journ.*, Oct. 30th, 1850.

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45. *Cæsarian Operation.*—M. Nimmo, Esq., of Dundee, relates (*Month. Journ. of Med. Sci.*, Sept. 1850) a case of impracticable labour, in which the Cæsarian operation was performed unsuccessfully to the mother, and gives the following table of forty-seven cases in which the operation has been performed in Great Britain and Ireland. Among these, only seven of the mothers were saved, and forty died. Of the children, twenty-six were saved, and twenty-one lost.

No.	Date.	Operator, or Authority.	Hours in Labour.	Causes.	Result to Mother.	Result to Child.	References.
1	1739	Mary Dunelly, midwife.	12 days.	....	recovered.	dead.	Ed. Med. Essays, vol. v. p. 439.
2	1737	Mr. R. Smith Edinburgh.	7 days.	....	died.	alive.	Smellie's Mid., vol. iii. p. 423.
3	—	Professor Young, do.	....	....	died.	alive.	MSS. Lectures.
4	—	Ditto.	....	....	died.	alive.	Do.
5	1740	Dr. White, Manchester.	....	....	died.	dead.	Hull's First Letter.
6	—	Dr. Wood, Edinburgh.	....	....	died.	dead.	Do.
7	1769	Mr. Thomson, London.	24 hours.	....	died.	alive.	Med. Obs. and Enq., vol. iv. p. 261.
8	1774	Dr. Cooper, London.	2 days.	moll. ossium.	died.	alive.	Do. vol. v. p. 218.
9	1774	Mr. Chalmers, Edinburgh.	12 days.	....	died.	alive.	Hamilton's Outlines, p. 339.
10	1775	Mr. White, Glasgow.	....	....	died.	dead.	Hull's Letter.
11	1777	Mr. Atkinson, Leicester.	8 days.	moll. ossium.	died.	alive.	Hull, p. 67.
12	—	Mr. Clark, Wellingburgh.	3 days.	....	died.	dead.	Mem. Med. Soc. vol. v.
13	1793	Mr. Barlow.	5 days.	distortion.	recovered.	dead.	Med. Rec. and Res. p. 154.
14	1794	Dr. Hull, Manchester.	12 hours.	moll. ossium.	died.	saved.	First Letter, p. 162.
15	1795	Dr. Hamilton, Junr., Edinburgh.	2 days.	malacosteon.	died.	alive.	Outlines.
16	1798	Dr. Hull, Manchester.	10 days.	....	died.	dead.	First Letter, p. 172.
17	1798	Mr. Kay, Forfar.	3 days.	malacosteon.	died.	alive.	Hull's Letter.
18	1799	Mr. Wood, Manchester.	....	distortion.	died.	saved.	Mem. Med. Soc., vol. v.
19	1800	Mr. John Bell, Edinburgh.	....	....	died.	saved.	Med.-Chir. Trans., vol iv. p. 347.
20	—	Mr. Dunlop, Rochdale.	....	....	died.	alive.	Hull's Baudeloc. p. 134.
21	—	Mr. Wood, Manchester.	....	....	died.	dead.	Med. and Phys. Jour., vol. vi. p. 346.
22	—	Dr. Kellie, Leith.	24 hours.	....	died.	dead.	Ed. Med. and Surg. Jour., vol. viii. p. 11.
23	—	Mr. K. Wood, Manchester.	....	....	died.	dead.	Med.-Chir. Trans., vol. vii. p. 264.
24	1817	Barlow and Cort, Blackburn.	....	....	died.	alive.	Barlow's Essays.
25	1821	Barlow and Dugdale.	....	....	died.	alive.	Merriman, p. 317.
26	—	Dr. Henderson, Perth.	18 hours.	distortion.	died.	alive.	Do.
27	1820	Dr. Radford, Manchester.	34 hours.	distortion.	died.	dead.	Ed. Jour., No. 146.
28	1821	Ditto.	19 hours.	distortion.	died.	dead.	Do.
29	—	Ditto.	53 hours.	....	died.	dead.	Ranking, vol. x. p. 212.
30	—	Ditto.	....	....	recovered.	saved.	Do.
31	1849	Ditto.	3 days.	....	recovered.	saved.	Prov. Med. and Surg. Jour. for 1849.
32	1826	Mr. Crichton, Dundee.	6 days.	....	died.	saved.	Ed. Med. and Surg. Jour. for 1828.
33	1829	Dr. M'Keblin, Belfast.	....	exostosis.	died.	dead.	Do. for 1831, p. 352.
34	1827	Mr. Knowles, Manchester.	....	....	recovered.	dead.	Trans. of Prov. Assoc., vol. iv.
35	1829	Mr. Ward.	....	....	died.	dead.	Lancet, March 28, 1840.
36	1833	Mr. Greaves, Rockingham.	27 hours.	distortion.	recovered.	saved.	Lancet for 1833-34, p. 148.
37	1834	Dr. Montgomery, Dublin.	....	fibrous tumour.	died.	dead.	Dublin Jour., vol. vi. p. 418.
38	1843	Dr. Elliot, Waterford.	....	distortion.	died.	dead.	Letter to Dr. Churchill.
39	—	Dr. Whitehead, Manchester.	....	....	died.	alive.	Do. do.
40	—	Mr. Braid, Manchester.	....	....	died.	dead.	Ranking, vol. vii. p. 330.
41	—	Messrs. Bailey and Hardy.	....	....	died.	dead.	Do. do.
42	1845	Mr. Goodman, Manchester.	5 days.	distortion.	recovered.	saved.	British Obstetric Record, vol. i.
43	—	Mr. Lyon, Glasgow.	....	tumour.	died.	saved.	Ed. Mon. Jour., Dec. 1845.
44	1841	Mr. Ross, Invergordon.	....	....	died.	alive.	Do. for 1842.
45	1847	Mr. Skey, London.	....	distortion.	died.	dead.	Lancet for 1847.
46	1849	Mr. Campbell, Lisburn.	....	distortion.	died.	saved.	Ranking, vol. x. p. 230.
47	1850	Mr. Nimmo, Dundee.	17 hours.	distortion.	died.	saved.	Ed. Mon. Jour., Sept. 1850.

46. *Sudden death seven hours after delivery—air found in the Heart.*—Samuel Berry, Esq., records in the *Prov. Med. and Surg. Journ.* (27 Nov. 1850), the following interesting case of sudden death after a natural labour, concluded within the ordinary period, and unattended by the unusual loss of blood.

The patient, aged twenty-two, pregnant with her first child, was taken in labour on the 16th of June, and she was delivered the following evening of a male child. In twenty minutes after the birth of the child the placenta was naturally expelled, with but little loss of blood. At half-past eight o'clock she was very comfortable, and at ten o'clock was carefully put to bed. At eleven o'clock she took some gruel, and expressed herself "as feeling as comfortable as she could expect." Her husband then lay by her side. About one o'clock in the morning of the 18th, he became alarmed by her difficult breathing and feeling of faintness. He immediately sent for Mr. Dyer, but before he arrived, at two o'clock, she was dead. She lived seven hours after her delivery. The cause of death could not be accounted for, as there was no hemorrhage, and apparently nothing in the condition of the patient to prognosticate such a termination. A *post-mortem* examination was allowed, and was made early in the morning of the 20th. The body was well formed and nourished. A thick layer of fat existed in the abdominal coverings. Upon opening the abdominal cavity, the uterus was seen midway between the pelvis and umbilicus; the peritoneum covering it and the intestines was healthy, but pale. The stomach contained a small quantity of fluid. Liver healthy. The kidneys presented a granulated appearance, and the urine which remained in the bladder was ascertained to be, by the application of heat, slightly albuminous. Upon cutting into the uterus it was found empty, and the vessels where the placenta had been attached patulous. The vagina contained, at its superior part, a moderately-sized clot of blood. Within the chest, both lungs were congested, and contained scattered tubercles in their upper lobes. The heart was the size of a male heart, and apparently distended. Upon making an incision into it, *a gush of air escaped, and the organ became flaccid: no blood was found in its cavities.* About one ounce of serum was observed in the pericardium. The brain was healthy in every respect. No signs of decomposition existed in any part of the body.

Olivier, in the article "Air," in the *Dictionnaire de Médecine*, p. 73, when referring to Legallois' experiments on the inferior animals, in which he had found sudden death occur from air penetrating into the vena cava inferior and heart, by the uterine veins, in female pregnant animals, asks the following question: "Is it to a cause of this kind that we ought to attribute the sudden and unexpected death in females lately delivered, and where the autopsy disclosed nothing which could account for such a catastrophe?"

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47. *On a Stethoscopic Sign of the Detachment of the Placenta.*—M. Caillault states that repeated observation has shown him that, at the moment of the detachment of the placenta from the uterus, a peculiar sound is produced, feeble at first, increasing in intensity in proportion as the uterine contraction becomes more energetic, and then becoming less audible, until it disappears. He says it consists of a small cracking sound, very frequently repeated, and which may be roughly compared with the noise produced by running the nails over a straw-bottomed chair.—*Brit. and For. Med.-Chir. Rev.*, Oct. 1850, from *L'Union Médicale*, No. 81.

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48. *Researches on Human Gestation.*—M. Coste read an essay to the Academy of Sciences, Paris (Oct. 21, 1850), in which he stated the results of his examinations of the bodies of women dying suddenly from violence, or by suicide, at different periods of gestation.

In the bodies of all women dying suddenly during or immediately after menstruation, examined by M. Coste, he has found the uterus lined by so thick a mucous membrane that, if its constancy had not proved it to be normal, it must have been regarded as a morbid product. This membrane was formed of glandules having orifices for the most part visible to the naked eye. In thickness it was equal to a fourth or a third of the muscular substance, and, in some instances, presented convolutions or folds pressed one against the other. In

extra-uterine pregnancies this mucous membrane was thicker, and its convolutions as large as those of the cerebral surface, having a breadth not less than ten millimetres (=1 centimetre, or .393 Eng. in.) From these facts, M. Coste considered it demonstrated that every time an ovum arrives at maturity in or is detached from the ovary of a woman, the uterine mucous membrane undergoes a change to prepare for its reception.

M. Coste has also examined the Fallopian tubes with a view to ascertaining whether in the pregnant state these remain free and pervious, or whether their uterine orifices become closed by a membrane which is to form the decidua. The result of his researches lead him to assert that their orifices remain open, and that the ovum falls into the cavity of the uterus, unless any abnormal cause obstructs its descent.

The changes which the ovum, &c., then undergo were thus stated by M. Coste:—

From the twentieth to the thirtieth day after conception, the uterine orifices of the tubes communicate freely with the cavity of the uterus, the mucous membrane is thickened. The ovum, instead of being free in the uterine cavity, is buried in the mucous membrane; so that, on first opening the uterus, the existence of pregnancy might be doubted. Consequently, M. Coste considers that normal pregnancy may be said to be at first interstitial growth. The ovum continues progressively enlarging, distending its covering of hypertrophied membrane; this distension going on, the ovum sensibly protrudes into the uterine cavity, attached by its opposite aspect to the base of the mucous membrane. The projecting portion becomes what anatomists have named the reflected decidua; that portion which remains attached to the muscular surface becoming the placental decidua; the rest of the mucous covering of the ovum becomes its parietal or uterine decidua. These three deciduæ possess the same organization as the mucous membrane whence they are derived, and it is only by the progress of development that they lose this character.

It is not, then, necessary, M. Coste remarked, to have recourse to the pseudo-membrane of Hunter, in order to explain the formation of these parts of the decidua: the development of the mucous membrane of the uterus is sufficient to explain the phenomenon. If these portions of the decidua be but modified mucous membrane, they should be cast off after delivery—and this is precisely what occurs; and the mucous membrane of the uterus is regenerated after all the débris of the decidua have been cast off with the lochial discharge.

This explanation of the nature of the mucous covering of the ovum, M. Coste considered, throws much light on certain otherwise obscure phenomena—*e. g.*, post-partum hemorrhages, the lochia, the propagation of puerperal inflammation by infection, and certain irremediable forms of sterility.—*Lond. Med. Gaz.*, Nov. 1850.

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49. *Examination of the Genital Organs of a young Woman who was assassinated during Menstruation.*—The researches of Bouchet, Bischoff, and others, have satisfactorily shown that menstruation coincides with the spontaneous maturation and discharge of ova. An observation by M. Jauzer (*Medicinische Annalen*) adds another to the many instances already recorded which countenance the ovular theory.

The young woman who forms the subject of the present case commenced to menstruate four days prior to her murder. The *autopsy* was made sixteen hours after. The surface of the left ovary presented a dark red spot, surrounded by minutely injected capillary vessels; this spot was formed by a little globular mass embedded in the ovary. The mass in question was separated from the tissue of the ovary by a thin yellowish envelope, composed of fibres intermingled with fat globules. In close apposition to this membrane, a small irregular spherical body was seen, composed of cellular tissue and fat.

The right ovary contained two corpora lutea, the Fallopian tubes were swollen and contained a fluid resembling and composed of epithelial scales. There was no trace of an ovule, or of spermatozoids. The uterine mucous membrane was injected and had a velvety appearance; it was easily detached with the scalpel. It was evidently thickened and was covered with a thin mucous secretion.

From this case it appears that the uterine mucous membrane, at the menstrual period, assumes an appearance analogous to that which it puts on during gestation, especially as regards the development of the mucous follicles.—*Provincial Med. and Surg. Journ.*, Sept. 18th, 1850, from *Medicinischen Annalen.*

50. *A new Japanese remedy for Sterility.* By E. Williams, M. D.—Amongst the many botanical remedies that popular experience has made common in Japan and China, is one that is believed to exert specific influence upon the uterus, more particularly in cases of sterility and checked menstruation; and from the numerous cases in which I have administered it with advantage, I am inclined to think it will become a valuable addition to our materia medica.

The tree from which the preparation is made that possesses the virtues ascribed to it is, no doubt, one of the order Ternstromaceæ of Jussieu, growing to the size of the English laurel, with leaves somewhat larger than the congou tea, and botanically it may be described as leaves lanceolate, alternate, serrated, downy on the under side, and emitting when bruised a strong odour resembling pulegium and sabina. Its properties are said to vary considerably with the age of the tree, likewise as to its being gathered at the full or wane of the moon, and as to the season of the year. It is perennial, and grows best in moist and sheltered places.

The mode of preparation is to take a quantity of the leaves, macerate them in as much rice-spirit (samshu) as will just moisten them for six hours; then express and give about a teaspoonful every hour, and two or three doses will invariably bring on the menstrual secretion, which can be maintained by a dose or two daily for any length of time.

Females in the healthy state are expected to menstruate in their eighth year in Japan and China, and should they not do so they are ineligible for betrothal; therefore recourse is had to the *key tu sing* with certain results.

To ensure its success, according to popular belief, the leaves must be gathered by a virgin, the while using certain cabalistic formulæ, at the full of the moon, and during the burning of a certain number of highly perfumed joss-sticks.

When required for the purpose of obviating sterility, the tree must be in its second year, and also gathered with certain prescribed formulæ at the wane of the moon, and equal parts of the root must be added to the preparation, which is made in the same manner as the preceding receipt.

That the root is aphrodisiac in its effects I have not the slightest doubt, as I have administered it to animals with obvious results, and without any ill-effects even to mules and castrati.—*Lancet*, Sept. 14th, 1850.

51. *Drs. Barnes and Sachs on Anæsthesia in Midwifery.*—Dr. Robert Barnes has published in the *Lancet* for July 13th and 20th, 1850, a tabular analysis of twenty-seven cases of natural labour in which chloroform was administered, by Dr. Sachs, in the Berlin Lying-in Hospital, and has appended some comments on the use of anæsthetic agents in midwifery. He is a strong opponent of this practice; and, in seeking to substantiate his opinions by the facts contained in Dr. Sachs' cases, he sometimes slightly transgresses the bounds of legitimate deduction. Allowing, however, for his being occasionally led away by preconceived notions, his remarks are worthy of much attention. The registered opinions of the opponents of anæsthetic midwifery now before us are particularly valuable, as they are accompanied by a statement of facts, from which the reader may draw his own conclusions. The time is approaching, when, from a full and honest comparison of data, the proper mean of the use of anæsthesia in obstetric practice will become fixed. The antagonism of parties is rapidly subsiding; for now the intoxication by chloroform of all parturient women (as a matter of routine) has happily very few advocates, though an increasing number of sound practitioners are in favour of the practice in certain cases.

The following is the table of Dr. Sachs' cases, as drawn up by Dr. Barnes:—

TABULAR ANALYSIS OF TWENTY-SEVEN CASES OF NATURAL LABOUR, IN WHICH CHLOROFORM WAS ADMINISTERED BY DR. SACHS.

No.	Age, etc.	State of labour.	Effects of Inhalation on			Remarks.	Result to	
			Pulse and Respiration.	Uterus.	Sensation.		Mo.	Chd.
1	24, prim.	24 hrs., pains strong ev. 3 min.	P. r. from 78 to 102: f. to 90. Resp. r. fr. 24 to 36, f. to 28.	Pa. stopped for 7 min.; ret. weaker and seldomer than bef. inhal.; rec. strength when eff. of inhal. had gone off.	Loss of cons. and sens., screamed at passg. of head.	... ...	R.	R.
2	21, prim.	20 hrs., memb. rupt., pa. of uncertain freq. and strength.	P. somewhat dim. in freq.	1st inh.; pa. repeatedly stopped by renewed inhal. 2d. inh., compl. relax.; no percept. eff. on pains.	Groaning and weeping.	Quiv. of lips, shuddering dur. pains. Shiver. after del.	R.	R
3	21, prim. (twins) very plethoric.	20 hrs., memb. rupt.; hd. down; pa. ev. 2—3 min.; str. reg.	P. 90, somewhat incr.	Did not aff. contr., or retard del.	Groaned as in pain.	Some fever; headaches aft. del.	R.	B. alive, d. after.
4	29, mult.	Hd. ent. pelvis.	... ...	Seemed to incr. intens. of contr. and lab.	Shrieked at pass. of head: recol. nothing.	... ...	R.	R.
5	27, prim.	Hd. deep in pelv.; memb. rupt.; os ut. compl. dilat.	1st inh., P. 92, f. to 72; last inh., snortg. resp., 44; p. 68.	Pa. arr. at first; ret. of full str.	Groaning; at one time gt. restlessn. and tossing abt.; recol. nothing.	... ...	R.	R.
6	23, prim.	12 hrs.; hd. deep; memb. rupt.; pa. str., ev 2 to 3 min.	P. 82, f. to 76; r. to 80 on awakg.	Pa. compl. arr. 7 min.; then ret.	Cried out as shoulders passd. while still under chl.	... ...	R.	R.
7	33, mult. two. former lab., easily term. in 6 hours.	9 hrs.; hd. high; memb. not rupt.; os ut. not fully dil.; pa. short, ev. 4 min.	P. 82, r. to 96, f. to 80,	1st inh., pa. arr. 6 min. then ret. 2d inh. pa. arr. 9 min.; ret., and memb. broke. 3d inh., pa. arrest.	Groaned; tossed about just before birth. Recoll. nothing.	... ...	R.	R.
8	20, mult.; form. lab. quick.	Hd. near ext. parts, very strong pa. every 2 to 3 min.	P. 96, unalt.	Pa. not arrest.	... ...	... ...	R.	R.

No.	Age, etc.	State of labour.	Effects of Inhalation on			Remarks.	Result to	
			Pulse and Respiration.	Uterus.	Sensation.		Mo.	Chd.
9	prim. (twins)	Memb. not rupt.; os ut. ptly. exp.; pa. moderate.	P. 81, r. to 102.	Pa. arr. 3 times, ret. weaker as chlor. went off.	Groaned; recoll. feeling pain.	Metritis and dysentery after deliv.	R.	B. alive, d. after.
10	25, prim.	Hd. near outlet; pa. strong.	P. 68, r. to 88 and 96, became irr.; resp. r. to 48, f. to 24	Lab. slightly arrested.	Groaned; recoll. nothing.	2 hrs. after del. had conv.; had been epil.; d. in 19 hrs.	D.	R.
11	33, prim.	Hd. above outlet, pa. good and str., ev. 2 to 3 min.	P. 96, then 90 to 86; resp. incr. to 36.	Pa. arr. for 11 min.	Uneasy movements during pa.	... ...	R.	R.
12	24, prim. (Absc. of labia.)	Hd. at outlet; memb. rupt.; os fully open; pa. ev. 2 to 3 min.	P. 112, f. to 88; resp. 60.	Pa. arr. for a time.	... ...	Perin. somewhat torn.	R.	R.
13	Prim.	Hd. at outlet, emerging.	... ...	Lab. not arrested.	... ...	... ...	R.	Putrid.
14	27, mult.	Hd. near outlet; memb. rupt.; pa. strong, freq.	P. 88, f. to 84—92; resp. 20, r. to 28—42.	Pa. compl. arr.; uter. relax.; ret. when chl. went off. Eff. on lab. complete failure.	Groaned and complained at ev. pa.	... ...	R.	R.
15	30, mult. (4 easy lab.)	Hd. at mid. of pelv.; memb. rupt.; os exp.; pa. str. ev. 2—3 min.	P. not affected; resp. accel.	Pa. delayed somewhat.	Answered quest., felt no pain.	... ...	R.	R.
		QUANTITY OF CHLOROFORM SMALLER; LESS DEGREE OF NARCOTISM INDUCED.						
16	Mult.	Hd. at outlet; pa. strong.	... ...	Lab. not delayed.	... ...	... ...	R.	Putrid.
17	22, prim. (period headaches.)	Hd. at outlet; memb. rupt.; pa. str., very painful, inclin. to delir.	... ...	Pa. slightly affected.	Groaned.	Strong shivering foll. deliv.	R.	R.
18	Sec. child. (1st labour painful)	Hd. at outlet; memb. rupt.; pa. every 3 min.	... ...	Pa. stopped 5 min.; ret. as before when chl. discontinued.	Refused to renew inh.	... ...	R.	not mntd.

No.	Age, etc.	State of labour.	Effects of Inhalation on			Remarks.	Result to	
			Pulse and Respiration.	Uterus.	Sensation.		Mo.	Chd.
19	37, prim.	14 hrs. in lab.; hd. at outlet; memb. rupt. artificially; pa. reg. ev. 2 min.	P. 112, f. to 75, r. to 100; resp. 55, f. to 48.	Pa. slightly enfeebled at 1st inhal.	... ...	Perin. somewhat torn.	R.	R.
20	24, prim.	Hd. at outlet, pa. str. and freq.	P. 76, r. to 81; resp. 20, r. to 24.	Pa. slightly aff.	... ...	Perin. torn to ext. of 1 in.	R.	R.
21	21, prim.	Hd. at outlet.	... ...	Pa. weak at first; afterw. recov.	Hd. nearly born when chl. commenced. Under infl. 11 min.	... ...	R.	R.
22	26, 2d chd. (1st labour easy.)	Hd. at outlet; pa. str. ev. 1, 2, 3, 4 min.	... ...	Pa. increased.	Hd. at point of expuls. when chl. comm.	... ...	R.	R.
23	32, prim.	Hd. at outlet.	P. 104, r. to 120, f. to 96; resp. 32, 30, 48.	Pa. not affected.	Ditto.	... ...	R.	R.
24	27, 2d chd.	Hd. at outlet; pa. ev. 2 min.	P. 72, r. to 82; resp. 30, r. to 36.	Hd. quickly expelled.	Ditto.	... ...	R.	R.
25	24, prim.	Hd. approaching outlet; pa. ev. 2 min.	P. 60, r. to 68, then f.; resp. 30. r. to 38.	Pa. somewhat ret. at first; chd. b. 39 min. after inh. consc.	... ...	... ...	R.	R.
26	35, prim, (chron. bronc., anasa.)	Hd. near outlet.	P. 88, f. to 72; resp. snorting, deep, 30.	Pa. arr. at first.	Groaned during pa.	Perin. torn sev. lines.	R.	R.
27	20, prim.	Hd. appr. outlet.	P. and resp. little aff.	Pa. slightly retarded.	... ...	... ...	R.	R.

We now proceed to give an abstract of the remarks made by Dr. Barnes on the various points of interest presented in the above table.

1. Effects of Chloroform on the Uterine Contractions. Dr. Barnes says: "Out of fifteen cases in which complete anæsthesia was induced, in eleven the uterine contractions were stopped, or enfeebled, and the labour consequently retarded. Out of twelve cases in which a minor degree of narcotism was induced, in eight the uterine contractions were retarded. The chloroform appears to have been given very cautiously; its administration was, in most cases, withheld until the membranes were ruptured, the os uteri fully expanded, and the head pressing on the perineum; in short, until the delivery was on the point of completion. Whenever inhalation is practised early in labour—that is, before the expulsive stage is advanced—uterine contraction is always im-

paired, and labour retarded. If the inhalation be deferred to a later period, the arrest of contraction in the womb is not so constant. So great is the accumulated excitability of the spinal marrow at the epoch of parturition—so intense is the excitation of the esodic nerves, distributed in profusion about the orifice of the vagina, by the contact of the fœtal head, that a moderate inhalation is quite ineffectual in subduing the vehement activity of the diastaltic function.* The diminution of the uterine contractions under chloroform shows conclusively that chloroform exercises a depressing effect, analogous to that of shock, on the spinal centre. It also proves, beyond a doubt, that chloroform exerts a poisonous action upon the spinal and ganglionic system at the same time as it does upon the brain."

2. Laceration of the Perineum. This occurred in four cases; and Dr. Barnes hence considers that chloroform does not prevent this accident. The relaxation produced by chloroform, he says, is probably simply a relaxation of the muscular fibre; whereas the natural relaxation extends to the cellular tissue, and to the skin. He further observes: "The physiologist will also observe in this stage a proof that pain—the psychical perception of pain—has its use. The abolition of pain has its danger. It has been remarked that chloroform inhalation, towards the completion of the expulsive stage, does not always arrest the action of the expiratory muscles. These cannot act efficiently, unless the chest contain a certain quantity of air, shut in by the closure of the glottis. It is by means of the powerful action of the expiratory muscles, added to the contraction of the uterus, that the head is driven through the ostium vaginæ. The danger of laceration of the perineum would, in many cases, be great, had not nature provided a safeguard against excessive and untimely expulsive energy—that safeguard lies in pain. It did not escape the acute philosophic observation of Denman that a cry, uttered at the acme of a bearing-down effect, uncontrollable by the will, by opening the glottis, and permitting the escape of the retained breath, at once broke the force of the expulsive nisus, reduced the pressure on the perineum and uterus, and saved both from rupture. Emotional influence is annulled when anæsthesia is induced; when the sensation of pain is removed, the system takes no alarm at impending danger; the glottis remains closed; the expiratory muscles continue to act with all the blind violence of the diastaltic function; the order of parturition is subverted; an essential link in the chain of the phenomena of labour is wanting; the head is driven with irresistible fury upon the perineum, before the process of dilatation is complete. It is not surprising that laceration is the result. It is fortunate that, at this stage of labour, the perineum more readily gives way than the uterus."

Dr. Barnes certainly has not proved that the chloroform is chargeable with the laceration of the perineum in the four cases in the table. The women were all primiparæ; one was 37 years of age, and another 35; patients, therefore, particularly liable to the accident.

3. Convulsions. These followed delivery, in one case, in two hours, and the patient died in nineteen hours. No doubt the patient was predisposed by her previous epileptic attacks. In another case (2), quivering of the lips and shivering occurred during the anæsthetic state, and shivering fits were renewed after delivery. In case 17, also, strong shivering followed delivery. Ether and chloroform have been found the most effectual means of exciting a fit in epileptic patients; and Dr. Barnes thus sums up his remarks on the probability of chloroform inducing puerperal convulsions in an epileptic woman—

"Labour is the exciting cause of convulsions in epileptics.

"Chloroform is a certain exciting cause of a fit in epileptics.

"Combine these two conditions; give chloroform to an epileptic patient in labour. What will be her chance of success?"

* Dr. Tyler Smith thinks it proved that, "under the influence of chloroform, stimulation of the spinal marrow is produced in the first instance. In some cases, when the anæsthetic is used in great moderation, its effects, however long continued, may, perhaps, be slightly stimulant."—*London Journal of Medicine*, December 1849, p. 1111.

These remarks of Dr. Barnes are excellent, so far as they point out the danger of administering chloroform to epileptic women; but the argument must be confirmed to this class of cases.

4. Metritis and Dysentery. Dr. Sachs refers to metritis as one of the diseases following the use of ether; and M. P. Dubois, having observed two cases of puerperal fever in which chloroform had been employed, concluded that they must stand in the relation of cause and effect. Dr. Barnes does not seem to lay much stress on this point.

5. By administering Chloroform, do we obtain for the Patient escape from pain and from the consequent shock to the system? We have here to consider the following questions:

a. Is the pain of labour physiological or pathological—that is, is it injurious or beneficial in its action?

b. Is the abolition of the sensation of pain in the parturient woman unattended by danger?

c. Is it true that the anæsthetic agents in use really annihilate pain, and save the system from the consequent shock?

(*a*) Dr. Barnes refers to a lecture published in the *Medical Gazette*, Oct. 1849, for some of the considerations which tend to prove that the pain of labour is physiological, and subservient to a useful end.

(*b*) Dr. Barnes answers this question in the affirmative. He believes that, in addition to other dangers, there is a shock, ofttimes a deadly one, from chloroform, as well as from pain. In Dr. Sachs' cases, at the commencement of inhalation, the pulse was frequently raised 20 or 30 beats in the minute, and the respirations were increased to 40, 50, or 60 in the minute; the after effect being to lower the pulse and respiration below the natural standard. This seems to Dr. Barnes still more dangerous, as it indicates a depressing action on the spinal and ganglionic systems. He thinks it moreover proved that the sudden impulse of blood, and that containing a poison, may produce a shock to the nervous centres; and he refers to the occurrence of apoplexy, puerperal convulsions, fatal syncope, and puerperal mania.

(*c*) In reply to the third query, Dr. Barnes observes, "What mean those groans, that agitation, those suppressed mutterings or open cries, which all have observed in patients undergoing surgical operations in the depth of so-called anæsthetic stupor? Are they the expression of suffering, or are they not? Can it be maintained that because patients on awaking express no recollection of that suffering, there was therefore no painful impression conveyed to the sensorium? In the case of parturition, the unconscious mother is as ignorant of her delivery as of its painful accompaniments. It might as reasonably be urged on that account that the child itself had not been born. Should we be justified in flogging a drunken man, acting on the anæsthetic principle that since he might not *feel* the infliction at the time, or *remember* it afterwards, he could not be hurt? Is there no constitutional injury in this case independent of consciousness? The law of the sequence of shock on the nervous centres upon excitation of the peripheral nerves is as inevitable as the sequence of effect upon cause. It has been erroneously concluded that chloroform simply narcotizes the brain, or rather induces a deep sleep, during which state there is complete unconsciousness of pain, and a consequent avoidance of the shock which pain produces on the system. It is further assumed that chloroformization, carried to the extent which is necessary to subdue pain, does not affect the spinal marrow or the sympathetic system. A strict analysis of the nervous system, added by experiment and observation, will show the fallacy of these conclusions. . . . . .

"In parturition as in surgery, in physiology as in pathology, the physical shock of nervous excitation of injury cannot be escaped from. In parturition as in surgery, the emotional shock of nervous excitation, or injury, may be avoided? In surgery, this may be an invaluable boon? Is it so in parturition? It is more than doubtful. The emotional influences, both those excited by the sensation of pain and those independent of pain, are of immense importance in this complicated function. The voluntary power, too, is often of the highest utility. In woman, at least, the brain should be allowed to retain its integrity,

to exert its beneficial controlling influence over her own conduct, as well as its salutary aid in attaining a safe delivery. . . . . .

"There is nothing better established in physiology than the strict dependence of all the functions of the economy on the nervous system. Further than this, the nervous system itself is dependent for its healthy powers upon the mutual action and reaction of its component parts. The experiments of Dr. Marshall Hall demonstrate the analysis of the nervous system into three elements; the brain, the spinal system, the ganglionic system: they show, indeed, that each executes distinct functions. But they execute them only long enough to prove the physiological law. No one of the nervous centres can long continue to act or to live separately from the rest. The diastaltic power of the spinal marrow is soon exhausted, if the brain be removed. The peristaltic power is soon expended, if the viscera be cut off from their connection with the spinal marrow. Inversely, the brain also soon ceases to act if severed from the spinal and ganglionic systems. Parturition is normally effected by the combined or successive agency of *all* the nervous centres. Peristaltic, diastaltic, and voluntary motion, all contribute to the expulsion of the child, and the subsequent safety of the mother. Not one of those forces can be properly manifested in due proportion as to power, time, or succession, without the integrity of the others.

"I am not aware that the most distinguished advocate for anæsthetic midwifery has modified his opinion, or his doctrine, as to the extent to which chloroformization should be carried in labour. The extent which he describes corresponds with the fourth degree of Dr. Snow: in this degree, narcotization is complete. Anæsthesia, therefore, as recommended by Dr. Simpson, is an unmistakeable reality. There can be no hesitation in concluding that, were the practice generally carried out to that extent, numerous deplorable and fatal accidents must occur. But a simple explanation lies in this fact; viz., that chloroform is very rarely given to the extent necessary to produce its characteristic effects; in other words, that *anæsthetic midwifery is no longer a reality.*"

In concluding, Dr. Barnes makes the following remarks: "In the facts this paper contains, I have offered a complete vindication of what has been called the *à priori—i. e.*, the physiological—argument against anæsthesia in parturition. *A priori* and *à posteriori* reasoning have, at length, though travelling by different roads, met at the same point. But the *à posteriori* conviction has been obtained at a fearful cost. Dr. Sachs refers to fifteen cases of natural labour, in which anæsthesia was induced by ether. Arrest of the pains was the common effect. In one case, it became necessary to use the forceps in consequence. Metritis and death followed the anæsthetic and instrumental interference. In one case, convulsions ensued. Out of the twenty-seven chloroform cases, in eighteen, more or less diminution of the uterine contraction was induced; in four, there was laceration of the perineum; in one case, metritis followed; in twelve, there were uttered groans, and other manifestations of suffering, although the patients did not remember it on recovery: in one case, puerperal convulsions occurred, and death ensued in nineteen hours; in two others, there was ominous threatening of the same appalling catastrophe."
—*London Journ. Med.*, Nov. 1850.

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52. *Displacement of the Ovary.* By Edward Rigby, M. D.—During the last three years, I have had occasion to notice several instances of a painful affection of the pelvic region, which I had not observed before, and which, as far as I know, has not yet been described. It is characterized by intense and peculiarly sickening pain about the sacral region, extending to one or other of the groins, and coming on in paroxysms of such agonizing severity as to render the patient perfectly frantic with the intolerable suffering. In some patients, the intermissions of ease were nearly or quite entire; in others, the pain, although divested of its characteristic intensity, never wholly abated. The source of the pain was evidently connected, directly or indirectly, with the rectum, for the passage of fæces was frequently attended with some difficulty, and always with great suffering.

According to the patient's feelings, it seemed as if a partial obstruction existed somewhere up the rectum, the smallest pressure upon which, by the pas-

sage of the fæces, was sufficient to bring on a paroxysm of this much-dreaded pain. At other times, she could scarcely tell what had been the exciting cause of the attack; for, like a fit of tic douloureux, it would frequently come on from no assignable reason, and cause her the severest sufferings for some hours. Patients describe the pain as being quite peculiar, and of a sickening and utterly intolerable character, such as they had never before experienced; indeed, from the descriptions which one or two have given of it, I should presume that it closely resembles the intense and peculiar suffering which patients describe in cases of orchitis. The pain was usually attended with great throbbing, and with a painful sense of forcing, or distension of the tender part, amounting almost to bursting, like something strangulated.

The menstrual periods have always been attended with intense pain, particularly during the early part of the discharge, though this varied a good deal in different patients, and (as far as I have seen) the discharge was invariably attended with exudations and small coagula. At these times, the whole lower part of the abdomen was frequently tender to the touch, and more or less fever was generally present, probably arising in part from the degree of suffering which had been induced. The tongue always showed the dry short-napped fur which is so constantly seen in cases of disease, or displacement of the pelvic viscera; the digestive organs were much deranged, and not unusually the stomach was extremely irritable.

On making a vaginal examination, she would frequently wince, and complain as soon as the finger touched the os and cervix uteri; but a little care quickly sufficed to show that these parts were not morbidly tender, but that pain was produced by pressing them against the tender spot which was behind and to one side, in the direction of one or other of the sacro-iliac synchondroses, or sacro-ischiatic notches. On passing the finger, therefore, behind and to one side of the cervix, and pressing against the wall of the vagina in the above-mentioned direction, the painful spot is at once reached, and sometimes a slight degree of hardness is perceived.

On examining per rectum, the finger soon reaches the same acutely painful spot which had been felt per vaginam. The patient dreads the slightest touch of it, however carefully applied. It is evidently a convex body, like an enlarged gland, though usually softer, situated in the recto-vaginal pouch: it is movable, if the patient can bear a sufficient amount of pressure for that purpose, and usually one or more vessels are felt throbbing when the finger presses upon it. The ovary is generally larger than natural, being more or less swollen from the strangulation produced by its displacement; and when the swelling is considerable, not only will pain be produced by pressing in the groin of the same side, but the ovary will be distinctly moved upon the finger per rectum. From the fact of its mobility can be explained the circumstance of our being able to feel it sometimes lower in the pelvis than at others, and why the patient is in greater suffering when it is so than when felt higher up. Hence the passage of a solid mass of feculent matter is attended with fearful sufferings; the ovary is pushed down by the fæcal mass as it descends through the rectum, until its attachments are put considerably on the stretch; a further amount of swelling is produced by this state of strangulation, and, in this condition, the fæcal mass is at length forced past, to the indescribable agony of the patient, frequently leaving her in severe pain for many hours afterwards.

In other cases, the ovary is nearly or quite fixed, having apparently contracted adhesions to the neighbouring parts.

It is not easy to speak decidedly as to the causes of this displacement, but I have chiefly, or almost solely, observed it among women of a lax, flabby habit, prone to passive menorrhagia, leucorrhœa, and abortion, but most particularly where the uterus has been retroverted. I have long since pointed out that ovarian irritation or inflammation is a frequent result of retroversion in the unimpregnated state, arising probably from the tension to which the broad ligaments are exposed, and consequent engorgement of the ovary.

The diagnosis is not difficult, for the pain is quite peculiar. It is of a forcing, throbbing character, so sickening and utterly intolerable as to be entirely different to any other pelvic pain with which I am acquainted. Its seat is referred

to the upper and posterior part of the vagina, usually somewhat to the left side where the ovary can be felt, especially upon examination per rectum.

The direction in which we can best reach the painful spot will guide us as to applying leeches per rectum or vaginam; they pretty certainly produce much relief, although, so long as the displacement continues, it cannot be more than temporary. The grand object necessarily must be to restore the ovary to its natural position, and this, whether connected or not with retroversion, will be best obtained by the prone position. The patient soon learns by experience what amount of lying forwards will be required, but, as in cases of retroversion, it is generally found necessary to assume an extra degree of prone position for a few minutes (knees and elbows) previous to lying down upon the prone couch. —*Medical Times*, July 6.

MEDICAL JURISPRUDENCE AND TOXICOLOGY.

53. *Child born in the beginning of the sixth month, and reared.*—Dr. W. T. T. Barker, of Dumfries, relates (*Medical Times*, Sept. 7th, 1850) the following remarkable case:—

"Mrs. A., aged thirty, weaned her first child on the 17th of November, 1846, a fortnight after which (1st December) she menstruated naturally. Two days after the catamenia disappeared (7th December), she conceived, having the same sensations *post coitu* which she felt at her previous conception. At four months she quickened. She was delivered (by a midwife) of her second child, a female, on the 14th of May, 1847—on the hundred and fifty-eighth day of gestation. The child had only rudimentary nails, and almost no hair, except a little, of a slightly reddish colour, at the lower part of the back of the head. It weighed one pound, and measured eleven inches. It was merely wrapped up at first, laid in a box about a foot long, used by the father (who is a slater) for carrying nails, and set on the kitchen fender, before the fire, to keep it warm. It came on very well, and was subsequently treated very much the same as other children, except, perhaps, that it was a little more looked after than usual, being considered a curiosity. She is still of small make, but is quite healthy, and takes her food well.

"I have now attended the family for four years and a half, and have watched her since her birth, but my professional services have never been called for on her account."

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54. *Death from Chloroform.*—Dr. Aschendorf states that a child, one year old, had been operated upon for a nævus under the influence of chloroform, with apparent success, when, on the child being removed from the table, its head fell back, and it instantly died in a state of convulsion. The quantity used had been six drops in the first instance, and a second application of three drops in some tow placed in a cup.—*Lond. Med. Gaz.*, Nov. 1850, from *Casper's Wochenschrift*, Sept. 6th, 1850.

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55. *Poisoning with Dulcamara.* By Dr. Plaetschke.—A man forty years of age, who was using decoction of dulcamara-stalks for a cough, took, one forenoon, from three to four quarts prepared from a peck of the stalks. In the evening he was suddenly seized with numbness in his limbs, and pains in the knees and elbows, dryness of the throat, and paralysis of the tongue. These symptoms increased so much in the course of three or four hours that he could scarcely move either his limbs or tongue. The head remained unaffected, consciousness unimpaired, the pulse quiet, but small and rather hard, breathing regular, the skin cool; there was neither nausea nor vomiting. From the time which had elapsed since taking the decoction, the administration of emetics was contra-indicated; recourse was, therefore, had to stimulants. Camphor was given freely, and the symptoms gradually disappeared.—*London Med. Gaz.*, 27th Sept. 1850, from *Casper's Wochenschrift*.

MISCELLANEOUS.

56. *On the Use of Lead in the Manufacture of Sugar.*—Dr. Redwood communicated to the Pharmaceutical Society (Oct. 9th, 1850), the result of some experiments he had made with the view of ascertaining the action of certain chemical agents upon sulphate of lead. In the discussion which has recently taken place with reference to the proposed process for purifying sugar by the use of subacetate of lead and the subsequent separation of any excess of lead by sulphurous acid, the advocates for the adoption of this process have contended that, should any portion of lead remain in the sugar—which the chemists appointed by the government to investigate the subject have proved to be the case—yet this, being in the state of sulphite, will be perfectly harmless. This opinion, which is principally founded upon the fact of sulphite of lead being a very insoluble salt, is opposed to that expressed by the medical men, Drs. Pereira, Taylor, and Carpenter, who were consulted by the Government. The object of Mr. Redwood's experiments was, to determine how far sulphite of lead was entitled to the appellation of a stable and insoluble compound when exposed to the action of chemical agents which it would be likely to encounter in the stomach. Sulphite of lead was found to be insoluble in water and in acetic acid. On digesting it in water containing free hydrochloric acid, however, a considerable quantity of the lead was taken into solution, so that the liquid gave a copious precipitate on the addition of hydrosulphuret of ammonia or carbonate of soda. A similar effect was also produced on digesting the sulphite in solution of sal ammoniac, and, to a slight extent, on digesting it in water acidulated with lactic acid, and in solution of common salt. It was also found that, on digesting sulphate of lead in solution of carbonate of soda, a mutual decomposition was effected, and carbonate of lead formed, so that, on treating the insoluble residue with acetic acid, abundance of lead was obtained in solution.

Dr. Ure stated that he had had much experience in the manufacture of sugar, and he felt satisfied that the proposed process for purifying sugar with lead could not be practically applied without endangering the public health, especially since it had been shown that sulphite of lead is not the stable and insoluble compound that it had been represented to be.

Dr. Golding Bird thought it was a great error to assume that insoluble substances were necessarily inert. Even admitting the insolubility of sulphite of lead, therefore, he should have required strong evidence to prove that it could safely be administered, even in minute doses, in an article of food of daily consumption. He thought too much caution could not be adopted in guarding against the ill effects which might ensue from the adoption of the process alluded to.—*Med. Times*, Oct. 12th, 1850.

57. *Statistics of Poisoning.*—A return has been printed by order of the House of Commons, of the number of persons, male and female, tried in the United Kingdom for murder, and attempts to murder, by the administration of poison, from the year 1839 to the year 1849, both inclusive. The number of persons so tried in England and Wales, during the ten years, was 154—namely, 69 males and 85 females; the number of convictions on either charge was 66. In Scotland the trials for murder by poison, since 1839, have been only 9—2 males and 7 females; the convictions were 3. The trials for attempts to murder were 6—3 males and 3 females. Total trials in Scotland, 15; total convictions 7. In Ireland the trials amounted to 56—25 males and 31 females; and the convictions were 13. In 1839 there occurred only one conviction in Ireland for murder by poisoning; in 1841 there were 5 convictions found against 10 persons accused. In 1849 the number of indictments was 13—7 males and 6 females; and the convictions 3.—*Monthly Journ. Med. Sci.*, Dec., 1850.

AMERICAN INTELLIGENCE.

ORIGINAL COMMUNICATIONS.

Relation of the Dumb-Bell Crystals to Uric Acid and Oxalate of Lime.—By CHARLES FRICK, M. D., of Baltimore. (In a letter to the Editor.)

My attention has been lately drawn to an article by Dr. Golding Bird entitled "Observations on the Nature and Chemical characters of the Dumb-Bell Crystals described as Oxalate of Lime," in the *London Medical Gazette* for October, 1850. In this article, Dr. Bird proves that a deposit of these crystals underwent the same changes by the action of chemical agents as the octohedral crystals of oxalate of lime, and at the end of his article he refers to a paper of mine, published in a former number of your Journal, and wonders that "so careful an observer as Dr. Frick could have committed such an error" as to suppose these dumb-bell crystals to be uric acid.

Dr. Bird has misunderstood my meaning if he thinks I meant to assert that all dumb-bell crystals are composed of uric acid. My opportunities for observing these crystalline bodies have been too infrequent for me to make so sweeping an assertion; and had I thought so, I should rather have supposed that my limited observations had allowed me to come to an erroneous conclusion, than that so able and accurate a microscopist as Dr. Bird had been mistaken in his views of the nature of these crystals. I do not at all deny that oxalate of lime may occasionally present itself in this form, but I am very sure that all the dumb-bells found in urinary deposits are not oxalate of lime.

I had supposed that the changes I detailed in a paper published in your Journal some months since would have proved this conclusively, but as Dr. Bird denies the fact so strenuously, I deem it due to myself to add one or two other facts that have fallen under my notice, and must ask the favour of their insertion in your Journal.

I have in my possession about two drachms of pure colourless uric acid, upon which I have been in the habit of experimenting. This, moistened with a few drops of distilled water, and examined under the microscope, always presents one or more distinct dumb-bells, mixed with lozenge-shaped and amorphous crystals of uric acid. If another portion is dissolved in liquor potassæ, and different quantities of muriatic acid added to separate parts of the solution, almost all the different shapes of uric acid may be recognized, and among them, always a few perfectly-formed dumb-bells, surrounded by others whose shape is amorphous. These facts would be sufficiently conclusive, provided the substance acted upon was uric acid, and contained no lime. This is proved as follows:—

1st. On subjecting a small portion to the blowpipe or a piece of platinum foil, it blackens and then entirely disappears.

2dly. On adding a small quantity of liquor potassæ it is dissolved, making a clear solution.

3dly. On dissolving it in nitric acid, and then heating it over the fumes of ammonia, the purple colour indicative of murexid is produced.

These tests prove undoubtedly that the specimen acted upon contained uric acid, and that no lime was present, so that these dumb-bells at least are neither oxalate nor oxalurate of lime.

Dr. Bird, in the article just mentioned, also states that Dr. Hassall has informed him that he has met the dumb-bell crystals in the residue left by the spontaneous evaporation of a drop of urine on a plate of glass, but they were perfectly soluble in water. These of course were not oxalate of lime, but neither were they uric acid.

Dr. Carson, of Philadelphia, an exceedingly accurate and careful observer, tells me that during the last summer he observed a dumb-bell deposit, which was removed by acetic acid, and which he considered was composed of the triple phosphate. This again could scarcely have been oxalate of lime.

As a negative argument, I might advance that I have on several occasions, after adding together oxalic acid and lime in solution, produced the deposition of the crystals of oxalate of lime by the gradual addition of the vapour of ammonia, and although I have constantly found octohedra and all the different varieties of ovals which I have figured in my little work on "Renal Affections," under the head of oxalate of lime, I have never been able to observe any dumb-bells.

Without at all denying Dr. Bird's view, that these crystals are occasionally oxaluret of lime (although I have never been able to produce them by adding lime to a solution of oxalurate of ammonia), I yet think they are more frequently composed of oxalmic acid alone, and it is very probable that this acid is not formed by the union of oxalic acid and urea, as Dr. Bird supposes, but is produced by the action of ammonia liberated during decomposition upon uric acid. If uric acid is dissolved in nitric acid, alloxan is first formed, then parabanic acid, and if this latter is saturated with ammonia, oxalmic acid is produced. To these changes, the following facts bear a very decided relation.

We occasionally detect these dumb-bells in urine that is left standing for some weeks, which has undergone decomposition, and which did not at first contain either oxalic acid or oxalate of lime. And they are much more readily produced when the uric acid is deposited by a drop of nitric acid, and then suffered to remain long enough to liberate ammonia by the decomposition of urea.

I am aware that this latter speculation is not supported by a sufficient number of carefully observed facts, and regret that the time for the publication of your Journal is so near at hand, as to prevent me from going more into detail, but I hope at some future time to be able to state some facts which will bear more directly upon the subject under consideration.

BALTIMORE, *December* 23, 1850.

Iritis complicated with Amaurosis. By GEORGE W. PATTERSON, M. D., Resident Physician of the Northern Dispensary of Philadelphia.

Mrs. W. called at the dispensary in reference to an affection of her eye; she was about 40 years of age, of a cachectic habit, and a seamstress by occupation. Upon examining her eye, I found a diffused redness of the sclerotica; the cornea was surrounded with a vascular zone; the pupil was much contracted and scarcely dilatable; the iris had lost its usual fibrous appearance, was irregular at its inner margin, and its colour was of a reddish hue; she was unable to distinguish objects, and what was somewhat remarkable, there was no photophobia; light that could not well be borne by the sound eye could be readily endured by the affected one. She attributed the inflammation to ex-

posure to cold and to sewing until late at night. Such was her condition, and to the affection of this organ alone did she direct my attention.

Her pusle being feeble, considering the amount of inflammation that existed, I did not resort to venesection, but had leeches freely applied to the vicinity of the eye; gave calomel, grs. iv, and followed it with a saline cathartic, and also ordered mucilage of pith of sassafras as a local application. At the next visit, I found the inflammation somewhat subdued, the pulse being small, though not frequent and having but little force; noticed several fan-like projections of lymph from the free margin of the iris—and she also complained of some circumorbital pain—prescribed R. Mass. pil. hydrarg. gr. xviii; pulv. ipecac. grs. vi; m. and ft. pil. vi; and directed one to be taken three times daily.

Ordered a blister to be applied to the nucha, and the blistered surface to be dressed with mercurial ointment, and also ext. belladonna made thin by water to be applied around the eye.

The belladonna acted, although the pupil was not dilated by it as much as was desirable—continued the application. Discovering slight fetor of the breath, I determined to discontinue the use of mercury and substitute the iodide of potassium; I did so because of her peculiar diathesis, wishing to avoid salivation, and also from a belief that the inflammation was of a rheumatic character, and it was while under this agent, the iodide of potassium in five-grain doses three times daily, that the effusion disappeared; the pupil resumed its even margin and the redness passed away, yet notwithstanding this improvement, the patient could not see, although prior to the commencement of the iritis her vision was unaffected. Being quite anemic and debilitated, I now prescribed Vallet's ferruginous mass thirty grs. daily in divided doses, with the view to correct the general adynamic condition of her system, and thus induce the optic nerve to resume its function. After she had taken the preparation of iron for a week, I had the satisfaction to find that sight was returning, which was completely restored after she had taken about ℥i of the medicine.

The patient at this period informed me that she had been and was still suffering much from leucorrhœa, and that the discharge was not only profuse and watery but of an acrid and offensive character. Believing this drain to have been the secret cause of much of the difficulty with which I had had to contend, I at once resorted to the following formula, to be used as an injection. R. Arg. nitrat. ℥i; creosot. gtt. xx; aqua, f℥vi.—M. The discharge from the vagina soon became albuminoid in its character, and gradually disappeared. Having thus corrected these complications, she was discharged.

Abnormal Relation with Inversion of the Clitoris and Urethra. By WILLIAM D. KELLEY, M. D., Gallatin, Tenn.

Mrs. — having been guilty of illicit intercourse, was soon after attacked with gonorrhœa, in the treatment of which the following anatomical relation was discovered: on separating the labia majora, the nymphæ were seen to be but slightly developed, a ruga or fold of mucous membrane affording the only evidence of their existence. Immediately *beneath* the commissure of the vulva was the smooth triangular space of the VESTIBULUM, with the meatus urinarius situated two lines above its inferior margin, and three-eighths of an inch *above* the projecting glans clitoridis; which dipped into the superior angle of the vagina. The patient being placed upon her back and a catheter introduced, instead of pursuing an upward and backward direction, it passed vertically for an inch, when a slight incurvation led directly into the bladder,

a jet of urine following. It is thus shown that the urethra penetrated the space between the corpora of the clitoris and the arch of the pubis, and made its exit above the clitoris; both the vestibulum and meatus urinarius appearing in front and above the latter organ. The clitoris was reverted so as to completely conceal the anterior edge of the upper wall of the vagina, and its glans was grooved antero-posteriorly by a deep sulcus. Mrs. — is a woman 45 years of age, is the mother of several children now grown to man and womanhood, and of virtuous habits previous to her recent guilty commerce.

DOMESTIC SUMMARY.

Case of Poisoning by Bromine.—Dr. SAYRE has made to the New York Pathological Society the following report on a specimen of poisoning by bromine recently presented to the society.

"A. H., aged twenty-four, of good health and temperate habits, a daguerreotypist by profession, residing in Williamsburgh, near the city of New York, at half-past 6 A. M., on the 29th of May, 1850, swallowed one ounce, by weight, of bromine, for purpose of self-destruction. The immediate symptoms, as reported by his medical attendants, were, of spasmodic action of the muscles of the pharynx and larynx, and great difficulty of respiration. This was soon followed by intense burning heat in the stomach, with great anxiety, restlessness, and trembling of the hands. The pulse was rapid, tense, and corded, and the respiration greatly hurried. The stomach was entirely empty at the time of taking the bromine. Previous to the arrival of medical assistance, a quantity of carb. ammonia was exhibited. An unsuccessful effort was made to use the stomach pump; an emetic of sulp. zinc, and afterwards carb. magnesia, in solution, with albumen, was given, which produced vomiting only when the stomach was distended. At other times there was no nausea or vomiting. The symptoms above described increased in intensity; the hands and feet became cold, with failure of the pulse, &c., until 2 P. M., when he died, seven and a half hours after having taken the poison.

"*Post-mortem, seventeen hours after death.*—On opening the abdomen, the external and anterior surface of the stomach was vividly injected; the lesser curvature to a great degree. Near its middle was a softened ecchymosed spot, an inch and a half in diameter; posteriorly were several smaller and similar spots, surrounded by red borders. The external surface of the duodenum was also vividly injected; the mesentery minutely injected, and a portion of it nearest the stomach was stained of a deep yellow colour, as were also other parts lying immediately beneath the stomach. The spleen and liver were of normal appearance. The pancreas much injected and deeply stained. The stomach contained about four ounces of thick fluid, resembling port wine dregs, and exhaling faintly the odour of bromine. Its whole internal surface was covered with a thick layer of black deposit, resembling coarse tanned leather, with intense submucous injection. There were about four ounces of fluid in the pericardium. The lungs were gorged with blood.

"*Remarks.*—On examination before the society, the internal surface of the stomach was of a nearly uniformly dark colour, and presented an appearance as if a mixture of charcoal and gum-Arabic had been spread over its mucous surface, and then allowed to dry and crack open in very numerous places. On gently rubbing or scraping off this black substance, the epithelial lining was found to be completely destroyed, leaving only a very thin portion of the mucous membrane. The colour gradually diminished towards the duodenum, and in this intestine was ash-coloured, or light gray. There was very considerable submucous injection of the stomach, and in some spots extravasation. The same appearance, though of less extent, was observed under the peritoneal coat.

"When we consider the physical and chemical properties of bromine, its nau-

seous and suffocating odour, its irritating effect upon the nostrils and organs of respiration and deglutition, and its corrosive quality, it is surprising that such a substance should ever have been selected for the purpose of suicide; but still more so that the patient should ever have succeeded in swallowing it. It is probably the only case on record of fatal poisoning by bromine, occurring in the human subject."—*New York Journ. Med.*, Nov. 1850.

History of the Epidemic Dengue, as it prevailed in Charleston in the summer of 1850. *The Charleston Medical Journal* for Nov. last contains a history of the Epidemic Dengue as it prevailed in Charleston in the summer of 1850, by S. H. Dickson, M. D., which, like everything from the pen of its distinguished author, is highly interesting and drawn up with ability.

The summer, he states, had been unprecedentedly hot and dry; the thermometer ranging between 80° and 90° for forty days successively; with no rain since the middle of May. Hooping-cough and scarlatina had spread extensively, the latter assuming considerable severity, occasioning in the months of May, June and July, 1 in 14 of the whole number of deaths during that period. Yet on the whole the city was healthy.

In the last week of July, cases occurred which looked like scarlatina, yet presented obvious differences, and these differences became more and more distinctly marked, until the resemblance was lost. Fever, assailing with great violence, ran a brief course, inflicting intense suffering, and disappeared, in many instances, without any cutaneous eruption, leaving the patient feeble and prostrate.

He gives the following description of the disease:—

"The access of the disease might be slow or sudden. If the former, there was a stage of lassitude, sensitiveness to a current of air, with dryness of skin. A formed chill rarely preceded. Most persons had a dull headache, with some intolerance of light. In general, anorexia was present, though some retained more or less appetite throughout. The tongue was clean and red. Pain gradually diffused itself over the limbs and back; many became drowsy, with red eyes; the pulse usually a little increased in frequency, in some, remained unaltered; and thus two, three, four, or five days would pass off, with great complaint of languor, debility and discomfort. On the fifth, sixth, or seventh day, the tongue would become furred, with slight nausea, and an eruption show itself on the surface, with more or less itching. This would vary in distinctness many times in the twenty-four hours, and gradually disappear, leaving the patient to convalesce slowly.

"Such was the history of a large number of cases, but, in a majority, the attack was sudden and violent. The patient was seized with severe headache, intolerance of light, and universal distress and oppressive debility. The skin was hot and dry; the face flushed, the eyes red and watery; the pulse tense, quick and frequent. The patient was exceedingly restless, and soon complained of intense pains in back and limbs and large joints. In some, the stomach and bowels were the seat of violent pain. The febrile paroxysm was of very various duration; and the local determinations might also vary, except as to the head, which, as far as I have seen or heard, was universally affected. In some, there was delirium throughout the febrile part of the attack. I noted carefully, in several, the length of the first or febrile stage. In one, it was only six hours before the skin became moist and the pulse abated in frequency. In nine hours, the remission was well established; but a degree of circulatory excitement prevailed for nearly twenty-four hours, when it left the patient and did not return. The pains in the head, back and limbs continued, with little abatement, however, for about forty-eight hours, when they gradually subsided. The patient was up on the sixth day; but, in this case, there was no eruption. In no other case did I see a paroxysm of less than twelve hours. The average, I think, was about thirty-six. In a few instances, it lasted for two and three, and seldom for four days. I saw no remission nor intermissions, but heard of many cases, both remittent and intermittent. There was, in the fully-formed attack, two very definite stages, with an interval clear of fever. This interval, of two to four days, was sometimes so free from suffering that patients would

rise from bed and lounge about the house, complaining only of debility, or even, if resolute, resume their ordinary habits and occupations. But on the fourth or fifth they would again yield to oppressive malaise and weakness, and seek the recumbent posture. A return of pain in the head and limbs, if it had disappeared; often a recurrence of febrile excitement would mark the access of this second stage. The tongue, which, until now had been clean and red, would put on a thick yellowish fur; the stomach would be more or less nauseated—very seldom to the extent of retching or vomiting; and this state of things would remain until, on the fifth, sixth, or seventh, some cutaneous eruption would exhibit itself, usually with a sense of heat and itching.

"The course of this disease occupied about eight days—not varying greatly from this standard. The differences seemed to be most marked in the extension or contraction of the interval between the two stadia.

"With the subsidence of the eruption, all ailment usually disappeared, but slowly and gradually. Almost all complained of a most annoying degree of muscular weakness. A very large proportion were alarmed by the occurrence of syncope on their first attempting to resume the upright attitude and exert the muscles of locomotion; and some few were troubled with stiffness of the back and extremities.

"The time of access of the febrile paroxysm, in a majority of those whom I could observe closely, was about ten in the morning—the hour of access of tertian. The subsidence was marked by profuse sweating, in most.

"In many, the second stage was attended with great pain, especially in the head, but without fever.

"There was a marked difference in the proportion of cases attended with eruption, in the first and latter portion of the epidemic. It became universal, or nearly so, in those who were attacked in the last week of August and in September.

"There was a marked difference, too, in the proportion of blacks presenting the eruption. I bent an especial attention to this point, knowing how easy it is to overlook that symptom in the coloured patient. I directed them to observe for themselves; to report any roughness, heat, or elevation, or itching. Three out of five escaped. It was also more common for them to recover without the supervention of a second stage. This, when it did happen, was denoted, in several, by disorder of the stomach and bowels, cholic, diarrhœa.

"In children, convulsions occasionally ushered in the attack. I saw one affected, through the three days of the first stage, with vacillating delirium, resembling closely the condition of delirium tremens—fearful and anxious to avoid some evil. In these subjects, also, the stomach was apt to be disturbed, with vomiting, sometimes, of viscid bile. In some, there was painful diarrhœa, from the first.

"No epidemic of which I have ever read was so universal in its prevalence as this. Numerous large households were attacked, without a single exception. Of my family, eleven in number, I alone escaped. In my kitchen, fourteen out of seventeen were assailed. All but two of the ten whites had an eruption. In five of the blacks, I am sure there was not the least appearance of this kind; in but two was it marked enough to make one certain of its presence.

"In any given domicile, the attacks were apt to be simultaneous, or in rapid succession; so that it often happened that there was in a family no one well to attend the sick.

"The latent period was various, but, in certain instances, prodigiously brief. Dr. Bellinger was satisfied with the proof that two persons, from healthy localities, were attacked within twenty-four hours, on visiting the city. Dr. Cain, whose opportunities at the Marine Hospital were specially definite, saw some cases in which the attack occurred on the day after arrival here. This reminds us of the instances in which typhus infection was immediately efficient, as related by some of our best authorities, Marsh, Thompson, &c. Several examples occurred of attacks within three days; it seldom gave a longer respite than five. When it had much declined in extent and violence, I saw two cases occur on the eighth and tenth days, as late as the middle of September.

"Exposure to the cause of the disease was also effective in a very short time—visitors to the city on business which detained them but a few hours being often assailed soon after their return home.

"The prognosis was altogether favourable. It was, indeed, curious, and highly gratifying to know—as a brief acquaintance with this strange disease taught us—that, furious as was its onset, vehement as the complaints of the patient might be, and his condition however full of menace, these fearful symptoms would subside after a time, and certain restoration to health ensue.

"The most alarming phenomena were convulsions—not exclusively confined to children, they occurred in one adult male—delirium—great gastric and intestinal disorder—great failure of pulse on the subsidence of the early febrile paroxysm. I saw, in some, the heart labouring slowly and heavily, as in bad cases of typhus. Some convalesced with marked slowness of pulse—as low as 40—the cutaneous affection assuming the erysipelatous character, or becoming carbuncular. I saw no death; indeed, fatal terminations were very rare. I heard of one, from mere prostration; two from erysipelas; and two from tetanus, spontaneously supervening. These latter seemed inexplicable and accidental.

"The diagnosis of our epidemic presents some difficulty. If we consider the eruption an essential character, we must acknowledge the presence of two forms of fever, coincident and concurrent, deserving, from their frequency, each the title of epidemic; or we shall be driven to regard a large number of the attacks as abortive and incomplete. In the first onset, the two sets of cases presented no appreciable difference; nor was there a single circumstance in their history which could lead to the prediction that eruption would or would not ensue. Nay, as in a large majority, eruption was the last in the train of symptoms, so, in some, it was the very first, and, in others, presented itself within a few hours after the invasion of fever. Some were not thus saved from a second stage, with a second eruption. This I saw, most distinctly, in a case in my own house.

"As to the eruption itself, it deserves a still more special notice. If the question were to be asked of the whole body of the physicians of our city, I doubt whether any two of them would offer the same definition or description of the cutaneous efflorescence, as characteristic or peculiar, while each of them would describe many varieties as occurring under his notice. I will endeavour to pourtray and class them:

"1st. *The Scarlatinous.*—This aspect of the surface was most common in the earlier existence of the disease; and many suppose, very reasonably, that the first cases were regarded and spoken of as scarlatina, which had been very prevalent through the winter and spring. This smooth, diffused redness of the skin was usually attended, too, with similar redness of the tongue, lips and gums. It was the character apt to be assumed by the premature efflorescence which sometimes intruded itself on the first stage during the three first days.

"2d. *The Rubeolous.*—I denote, by this term, a brownish, circular eruption, little elevated, rough and furfuraceous. This was not met with except in the maturity of the cases, coming out on the sixth, seventh, and even as late as the eighth and ninth days—always attended with fever and gastric disorder.

"3d. *The Erysipelatous.*—Cases of this sort were among the worst and most serious. In an interesting boy of seven years, the son of a medical friend, the skin of the cheek and temple will be permanently scarred from the sloughing of the cellular membrane beneath.

"4th. *The Variolous* or *Varicellous.*—This was not frequent; but I saw two instances in which a pustular eruption appeared. I am disposed to class, here, a very extraordinary case of fever, which I saw in July, with Drs. Porcher, Bellinger and Moultrie, in which the whole back was covered with pustules, like those of confluent small-pox, a few occurring on the forehead and limbs.

"5th. *The Lichenoid.*—The resemblance to prickly heat was here very obvious, but the little papulæ were fugacious, and would subside and become prominent many times during the period of their stay, which was not prolonged usually beyond twenty-four to thirty-six hours. These attended the milder class of attacks, and showed themselves often while the patient was beginning

to go about. There was no soreness with them, and but little itching or other inconvenience. It was in these and the second form, the Rubeolous, that we met with the desquamation of the cuticle—so frequent an event.

"6th. *The Papulous.*—I saw several of this sort. There was roughness of skin, with hard points, little elevated, seemingly within the skin. These points were discoloured, sometimes brownish, often of a leaden hue. They were coincident with feeble circulation, slight nausea, vertigo.

"7th. *The Phlegmonoid.*—It was ascribed to the heat of the season that boils were so common and troublesome, not only to children, but among adults. Great numbers suffered from these annoying tumours, and carbuncle also was of frequent occurrence. But it was among the patients recovering from fever, or in its second stage, that these affections were most complained of, seeming, in many, to take the place of the more ordinary eruptions.

"8th. *The Miliary.--Urticarious.*—Punctuate, resembling nettle-rash very closely. This was frequently seen, perhaps not so often alone as intermingled with some of the others.

"9th. *The Purpurous.*—Purpura was met with several times among this confused variety of eruptive disorders. It was usually of the simple form, but occasionally diffused ecchymosed spots were seen, and sometimes sponginess and bleeding of the gums.

"I saw with Dr. Jervey a case in a negro infant, presenting the exact appearance of lepra vulgaris. It came on and subsided at the same periods of the disease with the other eruptions.

"The child of the last-named gentleman was the youngest subject that I have known attacked. It was less than a week old, when the disease appeared with great redness and heat of skin, fever, etc. Its forehead was covered on the sixth day with circular elevations, firm and transparent, very like sudamina."

Dr. D. considers this as the same disease as the dengue of 1828, which prevailed at the South, and the break-bone fever which prevailed in Philadelphia in 1788, described by Rush.

As regards the treatment, Dr. D. says he has little to record. "All my medical associates came to look upon this strange disease as one so certain to terminate favourably that they were not called upon to interpose any active remedies for suffering so transitory. Some followed the medicine expectante almost absolutely—advising only rest in a recumbent posture, with cold applications to the head and warm pediluvia. Others added sub-acid drinks, I mean enjoined them as somewhat remedial. The patient took them readily, though there was little thirst. Prof. Frost used the lancet, though rarely, as a palliative in the violent headache of the first stage, and, as he tells me, with pleasant effect. Many prescribed, at the onset, a mild cathartic, Epsom salts or a Seidlitz powder, abstaining from farther prescription. Some maintain that a full dose of a mercurial was useful. Leeches, vesicatories, and a great variety of counter-irritant and soothing applications, were made to the seats of pain, with reported benefit. Leaving this matter to the patient, I saw no marked advantage from numerous experiments made with care. The subsidence of the first stage of febrile excitement afforded a good opportunity for the exhibition of quinine to those who believed the disease remittent or intermittent. I advised it to a few—and saw it taken by others—uniformly, as I thought, with annoyance and injury—never with any good result. Opium was employed almost universally—by some exclusively. It did not seem to me indicated so forcibly, as in the arthritic affection of 1828, yet it was often highly serviceable. It was certainly our best palliative. Even in the first stage, when it seemed of equivocal applicability, it gave a quiet sleep followed by a copious diaphoresis. A considerable portion of my patients, however, were drowsy from the commencement, and several spent nearly the whole of the first stadium in spontaneous sleep. All seemed to derive some solace from moderate doses of tinct. opii camph., in the interval and during the second stadium.

"As in typhoid affections, stimulants were often found eminently useful, and great numbers are ready to affirm that they can ascribe the first sensations of returning comfort to an indulgence of this sort on the part of their physician. One would take wine, another malt liquors, and a third brandy in preference.

Whenever the pulse was inordinately slow, and the heart's action laboured and dull, I administered stimulants freely. So also when the skin was cold, or covered with profuse sweat, or the eruption became purple or livid. The apparent atrophy or remarkable emaciation of many convalescents continued, until they were advised to resort to some stimulant; under the effect of which alimentation would seem to have been promptly resumed, and the food taken become at once more nutritious."

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Gangrenopsis.—The following suggestion by Professor Dugas, of Augusta, Georgia, contained in a letter to the Editor of the *Southern Med. and Surg. Journ.* (Oct. 1850), as to the influence of mercury in favouring the occurrence of gangrenopsis, where a tendency to it exists in the system, is well worthy of consideration.

"In this section of the country," remarks the professor, "the occurrence of gangrenous affections of the cheeks, lips and gums, in children, is by no means uncommon, and there are few communities in which there may not be found some living evidences of its havocs upon the face, as well as of the possibility of occasionally preventing a fatal result. I do not know of any satisfactory explanation of the fact that it affects exclusively those of tender years, and most frequently those between five and eight years of age. The object of this communication is to direct attention to a corresponding susceptibility of children of this age to mercurial salivation and sloughing, and to elicit the inquiry into the probable influence of mercurials in the occasional causation or excitation of such a state of things. Without denying, for a moment, that sloughing phagedena, cancrum oris or gangrenopsis (as the affection is variously denominated) may and does occur in individuals who have never taken mercurials, is it not possible, nay, is it not probable, that the use of an agent which does of itself sometimes induce a very similar destruction of tissues, and which is especially prone to do so at the very period of life most subject to gangrenopsis, may increase the tendency to this disease, if any exist in the system? The affirmative would seem a necessary or at least a rational corollary. Having had my attention very early drawn by a practitioner of genius and fine judgment (my preceptor), and one who was never accused of being afraid of mercurials, to the danger of giving calomel to children during the period of second dentition, I have never forgotten the lesson, and feel strongly disposed to attribute to it the fact, the remarkable fact, that during a practice of twenty years, I have never had a case of gangrenopsis to originate under my treatment! I have, of course, seen cases of it, but they had always originated in the hands of others. I have now vividly in my recollection a family of five children, three of whom had during the same autumn been successively taken with remittent fever and died with most awful sloughing of the cheeks and lips. They were all treated with calomel. Discouraged at the result, the parents determined to change their medical adviser, and I was requested to see the other two children when similarly affected with fever. These were treated without mercurials and recovered, without gangrenopsis. Far be it from me to wish to generalize from isolated cases, or even from the mere results of my own experience. Yet I have deemed it a duty, in a matter of such vital importance, to make the above remarks, with the hope that they may incite others to endeavour to determine how much should be legitimately attributed to an original defect of constitution, and how much to the treatment instituted. It will be observed that in the cases published in your last number, nothing is said of the treatment to which the patients had been subjected prior to their admission into the hospital."

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Treatment of Rubeola by Inunction.—Dr. John Evans, of Chicago, has treated measles successfully by inunction as recommended by Dr. Schneeman in scarlatina, and relates (*North-Western Med. and Surg. Journ.*, Nov. 1850), the following case. June 1, 1850, he was called to a girl fifteen years of age, labouring under the characteristic symptoms of a violent attack of measles—strong febrile action; severe pain in extremities, loins and head; injected and suffused eyes, with intolerance of light; constant distressing nausea, and the eruption well marked upon the face, neck and breast. Eight grains of Dover's powder was

given every six hours, and there being no abatement of the symptoms the next morning, Dr. Evans directed the patient to be rubbed with a piece of fat bacon over the entire surface.

The relief was marked by the subsidence of all the distressing symptoms in a few hours, and the application was repeated twice the next day. No other treatment was applied except the free use of warm teas. The recovery was more rapid than Dr. E. had before seen in such cases and without any disagreeable sequel.

Two other members of the same family were treated by the inunction with the same favourable results.

Dr. E. has since used the plan of treatment in a number of cases, and with uniform and prompt relief.

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Hydrangea Arborescens in Lithiasis.—Dr. E. W. Butler recommends a decoction or syrup of the root of the *hydrangea arborescens*, in the dose of a teaspoonful three times a-day, to facilitate the discharge of gravel, and to relieve the pain attendant on the passage of a calculus through the ureter.—*New Jersey Medical Reporter*, Oct. 1850.

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Absence of Uterus.—Dr. G. S. Crawford, of Chicago, relates (*North-Western Med. and Surg. Journ.*, Nov. 1850) a case of absence of the uterus. The patient was thirty years of age, had been married fourteen months, and had never had any periodical discharge from vagina, but on one occasion had a slight serous discharge. "Since girlhood she has had a small quantity of a whitish glairy fluid pass from the anus before the evacuation of fæcal matter; about once a month the discharge would continue for two or three days, on her going to stool; at these periods she had pains in the loins with general constitutional disturbance, and enlargement of the mammæ."

The vagina terminated in a cul-de-sac; the depth of which did not exceed an inch and a half. The patient has sexual desires and is gratified at the attempt at coition.

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Popliteal Aneurism—Ligature of the Femoral Artery, Cure.—Dr. Charles A. Pope records (*St. Louis Med. and Surg. Journ.*, July, 1850) a case of popliteal aneurism the size of a large orange, in a robust boatman thirty years of age, in which he applied a ligature to the femoral artery. The ligature came away on the twentieth day, and a complete cure was effected.

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Operation for Removal of an Ovarian Tumour, by large Abdominal Section.—Prof. Alden March, of Albany, has communicated to the New York State Medical Society an account of a case of ovariotomy, which is published in their Transactions.

The subject of this was a Mrs. P., 49 years of age, the mother of five children, the youngest of whom was seven years old. "The tumour was of three years' growth or more, having been accidentally discovered when it was about the size of a turkey's egg, in crowding between a bed-post and the wall of the room. For a year or two after, it gave her no alarm, or scarcely any anxiety; since it was neither painful nor tender, nor was its moderate increase in size calculated to excite serious apprehensions for the future; so that its existence was not made known to her physician until within eight or nine months of the day of the operation. During the last three or four months, the tumour had increased so rapidly that she appeared like a woman far advanced in pregnancy. At last she was so much incommoded as to be entirely prevented from sleeping in the horizontal position."

The operation was performed Dec. 10th, 1849, in the following manner:—

"An incision was commenced about four inches above the umbilicus, and carried in the line of the linea alba to near the pubis. The abdominal wall at the upper part was extremely thin, and by two or three strokes of the knife the tumour was readily brought into view. The wound was so extensive, being about 12 inches, and the tumour so much exposed, that it was readily discovered by the eye and hands to lie almost loose in the abdomen. To facilitate

its extraction, a puncture was made in the front and lower part of it, by which nearly or all of the water from the cyst was evacuated. The collapsed sac was followed down to its attachment to the right angle of the uterus, by which it was discovered that the ovarium had been dilated into a *monolocular* or single sac, attached to the uterus only by the broad ligament and Fallopian tube, which when twisted upon itself or gathered together was not larger than the little finger; around which, in mass, a three-threaded ligature was very tightly applied, not merely by the strength of a strong man, but by one of my own hands superadded. This was applied very near to the substance of the uterus; and next, all the substance included in the ligature was severed about half an inch from the point of its application. In using the sponge to cleanse out a trifle of blood that had fallen into the abdomen, the ligature was detached, when a brisk or rather an alarming hemorrhage ensued. The uterus was seized upon, drawn up, and the part containing the severed vessel, which was of the size of a crow's quill, or larger, was secured between the thumb and finger of my assistant, Dr. Armsby, until I could pass an armed needle with double ligature, the four ends of which I tied each way. The first did not prove effective in completely arresting the flow of blood. Another needle was passed in the same manner and secured as before, which answered the purpose. The patient must have lost nearly a pint of arterial blood, most of which fell into the cavity of the abdomen, and after having been properly removed, the wound in the abdominal wall was closed by eight interrupted sutures, and the ligatures brought out at the lower part of the wound. The abdomen was supported with long adhesive straps, a large sheet folded for a compress, and over the whole a towel or swathe applied after the manner of its use in obstetrical practice.

"The shock of the operation and the loss of blood being so severe for the patient, it was difficult to keep life in her for several hours. However, at the end of six hours, re-action began to take place. Although she was in the horizontal position during the operation, yet she became faint; which rendered it necessary for an assistant to make pressure with his hands on the bowels, to aid in keeping up the circulation. She also experienced a degree of nausea, which I was then rather disposed to attribute to the use of chloroform. Some four or five days after, there was a disposition to retch, but not sufficient to amount to much vomiting. This I attributed to the sympathetic irritation existing between the uterus and stomach. I believe this was all quieted by a little infusion of columbo.

"In the management of the case, I constantly and regularly used morphine, for some 10 or 12 days, and did not attempt to disturb the bowels with physic for eight or nine days. In the mean time, the bladder became distended with urine, and the bowels with air. The former was relieved by the use of the catheter, and the latter by passing up the rectum a large gum-elastic tube. By the adoption of these measures, the patient obtained great relief, and continued to improve from day to day in a very satisfactory manner.

"I think the sutures were removed on the eighth day, when union by the first intention was complete, at every point, except at the lower angle of the wound occupied by the ligatures, with which the divided arteries were severed. There was no redness, nor scarcely any tenderness in any part of the abdomen, except at the lower part, or in the region of the uterus. The ligatures had all come away, and the patient had so far recovered her health and strength as to be able to make a journey of over a hundred miles in one day, on the thirty-fourth day after the operation.

"The sac, when distended with its fluid, weighed eighteen pounds."

American Medical Association.—It should be remembered that the Association will hold its fourth annual meeting in Charleston on the first Tuesday (6th) of May, 1851. It is desirable that the different organized societies throughout the Union should appoint their delegates at an early period, and that they should take measures that the profession shall be fully represented in our great National Congress.

The names of delegates should be forwarded to Dr. H. W. De Saussure, Charleston, S. C.

—

Demonstrative Midwifery.—We have received a letter from Professor WHITE, of Buffalo, in which he complains that he has been misrepresented in the notice in our last No. of the trial of Dr. Horatio N. Loomis for libel; and as we are desirous on every occasion to do the fullest justice to all persons, we shall state the points to which he takes exception. These, if we do not misapprehend the Professor, are two.

1st. He finds fault with the remark of the reviewer, "It appears that the professor supposed he had discovered that it was possible by stethoscopic exploration of the abdomen of the pregnant female to determine beforehand the probable presentation of the child at the time of parturition," and that "to verify this discovery he induced Mary Watson, an unmarried female, pregnant the second time, to submit first to this exploration by some, if not all, the members of the graduating class under his direction."

Professor White denies that it can be shown from evidence on the trial that he supposed he had made this discovery, or that this was the object of the clinic. The object designed, he says, was "to demonstrate midwifery, and so stated at the time. For this purpose Mary Watson was induced to be confined at the college. Whilst there awaiting her confinement, the opportunity was embraced of permitting the class to listen to the intra-uterine sounds. On the application of the stethoscope, the fœtal heart was heard most plainly in a position which induced me to hazard the prediction that the occiput occupied a posterior position to the right of the spinal column. But the pretence that any discovery was claimed in incidental instructions is entirely gratuitous, and the assertion that it was undertaken on that purpose contradicted by the whole tenor of the testimony."

2d. He complains that he is unjustly accused of having committed a great error in allowing the labour to go on with the head of the child presenting in a faulty position, viz., the occiput to the right posteriorly and face to the left anteriorly.

With regard to the first of these points, we have only to say that the reviewer has honestly expressed the impressions made upon his own mind from a careful perusal of the evidence, and that as he has been misled, others may be equally so, we are therefore happy to have the opportunity of allowing Professor White to place the facts in their true light.

As to the second point, upon consideration of the subject, we cheerfully allow that the language of the reviewer was too strong. We consider the practice advocated by Dr. Denman, and the late Professor Dewees, than whom we cannot admit any higher authority in midwifery, to correct this presentation in the early stage by bringing the occiput into such a position as will permit it to emerge under the arch of the pubis, to be the best; but it must be admitted that the observations of Naegele show that nature herself will often accomplish this, and even where she fails to do so, we have several modern authorities for non-interference, and who maintain that though the labour is more protracted, still delivery may take place with safety to mother or child.

These we consider however as points of secondary interest—of importance only that injustice may not be done to individuals—they leave the main question, the propriety and advantage of demonstrative midwifery as practiced in Buffalo, unaffected. Respecting this, we must concur with the reviewer in all that is said of it both as a means of furnishing instruction and on the score of expediency and propriety. And these sentiments are not confined, as it is supposed by some, to a small minority of the profession. We have yet to meet with a single respectable physician in Philadelphia who does not concur in it; indeed, it is so far as we have been able to learn the unanimous sentiment of the profession in this city, and if we may judge from our sources of information, that of a large majority of the profession in the United States.

TRANSYLVANIA UNIVERSITY—MEDICAL DEPARTMENT.

SPRING TERM.

The Thirty-Third Session will open on the second Monday in March, 1851, under the direction of the following faculty, viz.:—

Benj. W. Dudley, M. D., Emeritus Professor of Surgery.
Robert Peter, M. D., Professor of Chemistry and Pharmacy.
Ethelbert L. Dudley, M. D., Professor of the Principles and Practice of Surgery.
Samuel Annan, M. D., Professor of the Theory and Practice of Medicine.
Henry M. Skillman, M. D., Professor of General and Pathological Anatomy and Physiology.
John R. Allen, M. D., Professor of Materia Medica and Therapeutics.
Samuel M. Letcher, M. D., Professor of Obstetrics and the Diseases of Women and Children.
James M. Bush, M. D., Professor of Special and Surgical Anatomy.
James M. Bruce, M. D., Demonstrator of Anatomy.

The cost of a full course is Seventy dollars, invariably in advance. The Matriculation and Library ticket is five dollars. The Dissecting ticket, eight dollars. The Graduation Fee is twenty-five dollars. Boarding and lodging from $2 to $3 per week.

ROBERT PETER, M. D., *Dean of the Faculty.*

Lexington, Ky., Dec., 1850.

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President, Hon. J. R. BURDEN, M. D.

FACULTY.

James McClintock, M. D., Principles and Practice of Surgery.
Rush Vandyke, M. D., Materia Medica and General Therapeutics.
Thomas D. Mitchell, M. D., Theory and Practice of Medicine.
James Bryan, M. D., Institutes of Medicine, and Medical Jurisprudence.
Ezra S. Carr, M. D., Medical Chemistry.
Frederick A. Fickardt, M. D., Obstetrics and Diseases of Women and Children.
James McClintock, M. D., General, Special, and Surgical Anatomy.
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The fee for the respective tickets may be paid to each member of the Faculty, or the whole amount may be paid to the Dean, who will issue a certificate which will entitle the student to the ticket of each Professor.

For further information, inquire of

JAMES McCLINTOCK, M. D., Dean,
No. 1 N. Eleventh St.

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W. W. GERHARD, M. D., 301 *Walnut Street,*
EDWARD PEACE, M. D., *Ninth and Walnut Streets,*
WM. BYRD PAGE, M. D, 264 *Walnut Street.*

MEDICAL INSTITUTE OF PHILADELPHIA, 1851.

The Annual Course of Lectures will be commenced on the 1st Monday in April, and be continued during the Summer, with the usual recess.

LECTURES ON

General and Special Anatomy,	By JOHN NEILL, M. D.
Materia Medica and Therapeutics,	" J. J. REESE, M. D.
Obstetrics and Diseases of Women,	" WM. B. PAGE, M. D.
Principles and Practice of Surgery,	" H. H. SMITH, M. D.
Practice of Medicine,	" W. W. GERHARD, M. D.
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317 Spruce St.

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SPRING TERM, 1851.

The next Annual Course of Lectures in Geneva Medical College will commence on the First Wednesday of March, 1851, and continue sixteen weeks.

FACULTY OF MEDICINE.

CHARLES B. COVENTRY, M. D., Professor of Midwifery, the Diseases of Women and Children, and of Medical Jurisprudence.
JAMES WEBSTER, M. D., Professor of Anatomy and Physiology.
JAMES HADLEY, M. D., Professor of Chemistry.
CHARLES A. LEE, M. D., Professor of General Pathology and Materia Medica.
JAMES BRYAN, M. D., Professor of Surgery.
WILLIAM SWEETZER, M. D., Professor of Theory and Practice of Medicine.
GEORGE W. FIELD, Demonstrator of Anatomy.

Fees for the Course, $62, payable in advance. Matriculation Fee, $3. Graduation Fee, $20. Dissecting ticket, $5; which all candidates for the degree of M. D. are required to take. Graduates at this Institution, and all who have attended two full courses of the same, are admitted gratuitously. All other graduates of three years' standing are received gratuitously, with the exception of the Matriculation Fee.

CHARLES A. LEE, *Dean.*

N. B.—The profession will take notice that the Lecture Term in Geneva College will hereafter be changed from the Fall to the Spring of the year, to commence the ensuing March, 1851. This change in the time of delivering the Lectures is made solely with the view of accommodating that large class of Medical Students who cannot conveniently attend during the Fall and Winter months, but whose term of study expires in the Spring.

GENEVA, *March*, 1850.

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JOHN NEILL, M. D., *Demonstrator of Anatomy in the University of Penn'a.*
JOHN J. REESE, M. D., *Lecturer on Materia Medica in the Phila. Med. Institute.*

PHILADELPHIA, *March*, 1850.

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In conclusion we must express our unqualified praise of the work as a whole. The high moral tone, the liberal views, and the sound information which pervades it throughout, reflect the highest credit upon the talented author. We know of no one who has succeeded, whilst supporting operative surgery in its proper rank, in promulgating at the same time sounder and more enlightened views upon that most important of all subjects, the principle that should guide us in having recourse to the knife.—*Medical Times.*

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